

STATE OF MAINE
PUBLIC UTILITIES COMMISSION
CASE SUMMARY FORM

Docket Number: 2011-262		Reporting Category: ELECTRIC	
Filer: ED FRIEDMAN, ET AL			
Description: REQUEST FOR COMMISSION INVESTIGATION			
Addendum: INTO SMART METERS AND SMART METER OPT-OUT			
1st Suspension: 5/1/2012			
Statute: 1302		Title/Rule: 35-A	
Filed: 8/1/11			
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LEGAL	CP	TANNENBAUM	MCCOLMAN			
ENERGY						
ELECTRIC/GAS		MONROE	HUNTINGTON	RABER		
TELEPHONE/WATER						
CAD		DAVIDSON				
SAFETY/SECURITY						
E-911						
REVIEWER	RV	HUNTINGTON				

* General Counsel will indicate whether the case is initially expected to be adjudicatory or non-adjudicatory. Non-adjudicatory cases are cases in which there is not a right to a hearing or cases where a hearing is not expected to be necessary. Examples include: routine financing cases, single tariff filings, rulemaking, and advisory rulings.

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July 29, 2011

Karen Geraghty
Maine Public Utility Commission
18 State House Station
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Karen,


Please find enclosed (or attached) a new "10 Person Complaint" regarding smart meters directed at both the PUC and CMP. It is submitted by 19 Complainants of whom I am designated as "Lead Complainant."

On behalf of Complainants, I am submitting this Cover Letter, 10-Person Complaint and Appendix 1-Signature Pages electronically today. The identical version in hard copy will be out in tomorrow's mail to you.

If you have any further questions, please don't hesitate to contact me.

Thank you.

Sincerely,



Ed Friedman

C.C.
Richard Davies, Public Advocate
Complainants

Ten-Person Complaint Pursuant to 35-A M.R.S.A. Section 1302 Regarding “Smart Meters” & “Smart Meter” Opt-Out as Promulgated by the Maine Public Utilities Commission (MPUC) July 29, 2011

WE, the undersigned** aggrieved Complainants, are customers of Central Maine Power (CMP). While this complaint is based on proposals and actions by CMP, the complaint is directed not only at CMP for levying what, given the facts, must be an unreasonable, unjust and discriminatory fee against ratepayers choosing to opt out of the smart meter program, but also at the PUC because of its May 19 and June 22, 2011 Orders (Part I and Part II) requiring CMP customers to pay the utility, should they, the ratepayer, elect to opt out of the program.

WE request the Public Utility Commissioners open an investigation for the purpose of examining this issue since *new and important evidence specifically addressing non-ionizing radiation* of the type emitted by smart meters, has been published earlier this year and also after the May 19 Order, and was not considered in either Order (in fact its absence was cited by the Maine CDC as supporting a lack of adverse health effects). Furthermore, privacy/electronic trespass concerns have not been adequately considered in previous Orders and *new information for the Commissioners on privacy/electronic trespass issues* is also presented here. The complaint enters other electronic trespass and health evidence including privacy guidelines, which may not have been raised in earlier complaints or be a part of the record.

WE hereby request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to satisfy it including amending the previous Orders as follows:

- 1) Stay the installation of further smart meters, or
- 2) Should further installations not be stayed, order future installations to be Opt In, and
- 3) Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters.
- 4) Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices, privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent.
- 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. We also request the Commission establish a database where such complaints will be recorded. This hot line number shall be prominently displayed on CMP bills and in the communication plan.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. Neither does the PUC adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems in these areas. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

** Signature pages attached as Appendix 1

1. Signature: (LEAD PETITIONER) EB

Utility Acc. # 211-022-0491-015 _____ Telephone Number 666-3372 _____

Printed Name: (LEAD PETITIONER): Ed Friedman _____

Address: 42 Stevens Rd., Bowdoinham, ME 04008 _____

2. Signature /s/ Kathleen McGee _____

Utility Acc. # 211-022-0467-015 _____ Telephone Number 666-3598 _____

Printed Name: Kathleen McGee _____

Address: 30 Stevens Rd., Bowdoinham, ME 04008 _____

3. & 4. Signature /s/ Donna Giroux & /s/ Bryan Hardacker _____

Utility Acc. # 443-022-1480-024 _____ Telephone Number: 809-0232 [DG], 809-8088 [BH]

Printed Name: Donna Giroux & Bryan Hardacker _____

Address: 82 Ocean Ave., Old Orchard Beach, ME 04064 _____

5. & 6. Signature: /s/ Chester Gillis & /s/ Eleanor Gillis _____

Utility Acc. # 211-022-0434-011 _____ Telephone Number: 666-3203 _____

Printed Name: Chester and Eleanor Gillis _____

Address: P.O. Box 233, Bowdoinham, ME 04008 _____

7. Signature: /s/ Charlotte T. Iserbyt _____

Utility Acc. # 535-004-2916-017 _____ Telephone Number 737-4730 _____

Printed Name: Charlotte T. Iserbyt _____

Address: 519 River Rd., Dresden, ME 04342 _____

8 & 9. Signature: /s/ Julian Holmes & /s/ Audrey Marra _____

Utility Acc. # 211-027-2371-012 _____ Telephone Number: 685-7329 _____

Printed Name: Julian Holmes & Audrey Marra _____

Address: 66 Lord Rd., Wayne, ME 04284 _____

10. Signature: /s/ Cynthia Atkinson _____

Utility Acc. # 441-157-7732-004 _____ Telephone Number 883-4276 _____

Printed Name: Cynthia Atkinson _____

Address: 10 Teal Pt. Dr. Scarborough, ME 04074 _____

11. Signature: /s/ Nancy Gray _____

Utility Acc. # 514-040-3225-001 _____ Telephone Number 865-6319 _____

Printed Name: Nancy Gray _____

Address: 204 Main St., Freeport, ME 04032 _____

12. & 13. Signature: /s/ Deborah Burk & /s/ Dan Burk _____

Utility Acc. # 535-004-2921-013 _____ Telephone Number: 737-4034 _____

Printed Name: Deborah & Dan Burk _____

Address: 530 River Rd., Dresden, ME 04342 _____

14. Signature: /s/ Dorothy Kelly _____

Utility Acc. # 514-024-8140-012. _____ Telephone Number 443-4787 _____

Printed Name: Dorothy Kelly _____

Address: 98 Pleasant Cove Rd, Phippsburg, _____

15 & 16. Signatures: /s/ Andrew & Melissa Fiori _____

Utility Acc. # 514-0500-387-002. _____ Telephone Number 666-8419 _____

Printed Name: Andrew & Melissa Fiori _____

Address: 212 Fischer Rd., Bowdoinham, Me 04008. _____

17. Signature: /s/ Regina S. Stilphen _____

Utility Acc. # 211-012-1362-012. _____ Telephone Number 582-4995 _____

Printed Name: Regina Stilphen _____

Address: 1241 Wiscasset Rd., Pittston, ME 04345. _____

18. Signature: /s/ Joe Ciarrocca & Jeanne Johnson _____

Utility Acc. # 514-020-2896-011 _____ Telephone Number 725-6414 _____

Printed Name: Joe Ciarrocca & Jeanne Johnson _____

Address: 532 Harpswell Rd., Brunswick, ME 04011 _____

Introduction

As the Commissioners and PUC staff should well know, smart meters, so-called, have no shortage of critics due to many proven and possible problems associated with them including:

1. Adverse health effects
2. Constitutional privacy violations
3. Interference with other wireless devices
4. Creation of fire hazards due to interference with ground fault interrupters
5. Effects on wildlife
6. Inaccurate readings-over-billing
7. Commerce issues-Electronic Trespass

The PUC has recently debated many of these issues in Dockets 2010-120; 2010-345; 2010-346; 2010-389; 2010-398; 2010-400 and 2011-085. [1] This complaint incorporates by reference all evidence, oral and written, submitted in the aforementioned dockets while introducing recent compelling evidence from the World Health Organization's International Agency for Research on Cancer (WHO/IARC), other health studies and further discussing privacy/electronic trespass issues.

While one might think the Commission should be commended for offering an Opt Out; in reality the net result may do more harm than good as it attempts to legitimize a seriously flawed product, foist this product on an unsuspecting public, and couch what is nothing more than a text book illustration of extortion as "*associated costs of that option*". [2]

In the same press release, Commissioner Vafiades is quoted: "*Based on sound public policy, as allowed by statute and taking into consideration all public correspondence and filings, we conclude that offering a smart meter opt-out option is reasonable and in the public interest. For the long term success of smart meter implementation and to maximize its potential to the fullest, the public needs to be actively engaged in monitoring their usage and real-time price of electricity and modifying their behavior accordingly. To achieve this goal, we need to shift the focus to the benefits of smart meters and allow the small minority to opt out.*" [3]

Complainants disagree strongly that opt out options, certainly as ordered, are either reasonable or in the public interest. In fact we believe the Commission's action requiring ratepayers to pay CMP to avoid possibly harm and to avoid warrant-less information- gathering inside the home, to be the very opposite on both counts. Which is to say the Commission's order appears unreasonable, unjust, discriminatory and against the public interest. Better descriptions of the Commission's actions in somewhat descending order of severity might be "collusion with the utility", "willful negligence", "irresponsible", "arbitrary and capricious", "not substantially supported by evidence-in total or in the record", "remiss" or "uninformed." Commissioner Vafiades attempts to justify smart meters and a smart grid implying this will enable ratepayer to be "*actively engaged in monitoring their usage and real-time price of electricity and modifying their behavior accordingly.*" This rationalization falls flat on its face because right now any ratepayer could purchase, or CMP could supply if they truly cared, a simple watt meter (Kill-A-Watt is a popular brand) enabling real-time monitoring of appliance power use. This meter, at about \$20 retail, is an immediate and effective way for ratepayers to measure and monitor power usage and to upgrade appliances or conserve wherever may be most cost-effective.

The Commission has a mission, one which the Commissioners should be legally bound to execute. As stated on the Commission's web page:

The Maine Public Utilities Commission regulates electric, gas, telephone and water utilities to ensure that Maine citizens have access to safe and reliable utility services at rates that are just and reasonable for all ratepayers. [4]

First and foremost is the adjective "safe." While the Commissioners may be more used to thinking in terms of pipeline or powerline safety (i.e. gas leaks or electrical discharges), there is nothing in the PUC mission limiting the word safety to mechanical issues. As defined at Dictionary.com, "safe" means: 1. secure from liability to harm, injury, danger, or risk 2. free from hurt, injury, danger, or risk 3. involving little or no risk of mishap, error, etc. There is no exclusion for the avoidance of adverse health effects both to humans and wildlife. A pipeline is, for example, built, approved and operated to avoid accidents which could injure people or harm the environment. If such a project was allowed to proceed knowing serious problems existed and had not been corrected, this could lead to serious legal charges. If the true facts were concealed, the charges would, of course, be criminal.

Where the law is concerned, neither ignorance nor abdication of responsibility are excusable. The PUC declared they would make no determination on the merits of health, safety, privacy or security concerns with respect to wireless smart meters. This is, at best, disingenuous considering their mission and the implied assurance that, as an entity, it is their responsibility to assure protection of citizens, not profit to industry or the "hope" for some future benefit that is not at all clear in the factual record.

The Hobbs Act defines "extortion" as "the obtaining of property from another, with his consent, induced by wrongful use of actual or threatened force, violence, or fear, or under color of official right." [5] Thus when the PUC or CMP essentially say through their actions, if the ratepayer doesn't want to be fearful of or risk possibly harmful radiation effects, or doesn't want to be fearful of CMP collecting data (personal property) (to sell or not) about them from within their own homes, then they must pay the utility what is essentially "protection money" to keep their old meter and avoid these sanctioned (under color of official right) risks or threats. If citizens opt out and don't pay, that of course opens up another set of possible consequences for them.

Assuming you are one of the vast majority who have electricity, there really is no fair choice if you are discriminated against and penalized through supplementary fees. Smart meters carry very real, or at very least, the strong threat of very real risks to customers. Knowing this and still ordering CMP charge ratepayers a premium to opt out, the Commissioners create, in this case, a situation unsafe, unjust, discriminatory and unreasonable; anathema to their mission. In the consumer's best interest or not, the Commission endorses smart meters. If the Commission wants, despite the ever-increasing evidence against smart meters, to encourage their use, they should allow or require CMP to provide incentives for those customers who wish to switch, not impose penalties on those customers wishing to ensure their own safety, privacy and reasonable rates.

A Review of Health Effects and Introduction of New Evidence

Research into health effects of low level electromagnetic and RF radiation has been going on over seventy years. In 1971, the Navy Medical Research Institute published a bibliography of over 2,000 studies finding biological health effects from microwave and RF radiation going back to the 1930s. [6] Effects were broken down into the following broad categories, noting as well for each, the number of sub categories (in parentheses) also described and distinguished:

1. Heating of organs (8)
2. Changes in physiologic function (29)
3. Central nervous system effects (9)
4. Autonomic nervous system effects (4)
5. Peripheral nervous system effects (1)
6. Psychological disorders-Human behavioral studies (17)
7. Behavioral Changes-Animal studies (1)
8. Blood disorders (12)
9. Vascular disorders (2)
10. Enzyme and other biochemical changes (13)
11. Metabolic disorders (4)
12. Gastro-intestinal disorders (4)
13. Histological changes (2)
14. Genetic and chromosomal changes (5)
15. Pearl chain effect and orientation of cellular and other particles (1)
16. Miscellaneous effects (10)

It is precisely because of this large spectrum of effects, the military is creating weapons using RF/microwave frequencies. [7]

More recently, the UK group Powerwatch reviewed approximately 1300 EMF/RF studies from the past 20 years organizing the studies into 3 categories: finding effects from exposure or radiation, finding no effects from exposure or radiation or offering important insights but offering neither positive or null findings. As they note:

"When it comes to EMF issues, one of the most frequently heard phrases is: "There is no evidence to support EMFs having health effects" or simply "There is no conclusive evidence."

"We believe that this is completely wrong; there is an enormous body of evidence out there, but public and even academic awareness seems to be very poor. Therefore, we will be presenting a list of papers which either show serious effects or are considered important papers on the subject which we have collected over the years."[8]

In 2007, the BioInitiative Working Group, an international collaboration of prestigious scientists and public health experts from Columbia University and the University at Albany (New York), University of Washington (Seattle), the Karolinska Institute, Umea University and Orebro University Hospital (Sweden), the European Environmental Agency (Denmark) Medical University of Vienna (Austria) and Zhejiang University School of Medicine, (China) released a 650-page report citing more than 2000 studies documenting health effects of EMFs and RF from all sources (pre-smart meters). Chapter titles include:

1. The Existing Public Exposure Standards
2. Evidence for Inadequacy of the Standards
3. Evidence for Effects on Gene and Protein Expression (Transcriptomic and Proteomic Research)
4. Evidence for Genotoxic Effects – RFR and ELF DNA Damage
5. Evidence for Stress Response (Stress Proteins)
6. Evidence for Effects on Immune Function
7. Evidence for Effects on Neurology and Behavior
8. Evidence for Brain Tumors and Acoustic Neuromas
9. Evidence for Childhood Cancers (Leukemia)

10. Magnetic Field Exposure: Melatonin Production; Alzheimer's Disease; Breast Cancer
 11. Evidence for Breast Cancer Promotion (Melatonin links in laboratory and cell studies)
 12. Evidence for Disruption by the Modulating Signal
 13. Evidence Based on EMF Medical Therapeutics
 14. Key Scientific Evidence and Public Health Policy Recommendations
 15. APPENDIX - Ambient ELF and RF levels
- Average residential and occupational exposures

A key finding from the report states: *"Not everything is known yet about this subject; but what is clear is that the existing public safety standards limiting these radiation levels in nearly every country of the world look to be thousands of times too lenient. Changes are needed."*[9]

In the 2008-2010 President's Panel on Cancer Annual Report: Reducing Environmental Cancer Risk: What We Can Do Now, authors observe many of the uncertainties regarding effects from EMFs and RF radiation but nevertheless counsel a precautionary approach: *"Until these questions are answered with some degree of confidence, cell phone users can reduce their exposure to radiofrequency energy by making fewer calls, reducing the length of calls, sending text messages instead of calling, using cell phones only when landline phones are unavailable, using a wired "hands-free" device so that the phone need not be held against the head, and refraining from keeping an active phone clipped to the belt or in a pocket."*[10]

The California Council on Science and Technology released their report Health Impacts of Radio Frequency from Smart Meters in January 2011 [11]. The report was met with a flood of critical comment based on problems with its methods, research, total quality and conclusions. Our complaint incorporates by reference the individual comments on the study as made available on the CCST website [12]. Of particular note are comments from:

1. Karl Maret, MD, BS Electrical Engineering, a MS Biomedical Engineering, four year post-doctoral fellowship in physiology:

"The CCST report further states that, "Without a clearer understanding of the biological mechanisms involved, identifying additional standards or evaluating the relative costs and benefits of those standards cannot be determined at this time." I strongly disagree with this conclusion as there is now a large body of scientific literature describing several key mechanisms for the action of weak electromagnetic fields. These include, among others:

Removal of calcium ions bound to cellular membranes, leading to their weakened structure and changed cellular functioning

Change of calcium ion leading to changes in metabolic processes in cells,

The leakage of calcium ions into neurons generating spurious action potentials,

Fragmentation of DNA in cells seen through the Comet assay

Changes in the blood-brain barrier in animals after microwave exposure

Defined cellular stress response, including the production of heat shock proteins (HSP), that are triggered electromagnetically at non-thermal levels that require much less energy than when triggered by heat (so-called thermal considerations)

Activation of specific genes by exposure to non-thermal electromagnetic fields leading to gene transcription to form RNA, the first stage in the synthesis of proteins

All these biological effects are well substantiated in the scientific literature and occurred at much lower exposure levels than current FCC standards, but are minimized by the CCST report.” (Dr. Karl Maret has also given one of the very best presentations on the science of smart meters. This presentation was broadcast September 15, 2010 by Santa Cruz County Community Television as part of their program “The Truth About Smart Meters” and can be viewed online at: <http://www.communitytv.org/programs/online/truth-about-smart-meters>. Maret’s portion of the program begins at :22 minutes and ends at 1:26. Our complaint incorporates this program by reference.)

2. David O. Carpenter MD -University at Albany, State University of New York Institute for Health and the Environment and Department of Environmental Health Sciences School of Public Health (former Dean):

“The statement “*The scientific consensus is that body temperatures must increase at least 1°C to lead to potential biological impacts from the heat*” is totally wrong, and makes it obvious that no persons with medical or biological expertise participated in this report. Every enzyme system in the body is exquisitely sensitive to temperature, and increases activity by even a fraction of a degree increase in temperature. In fact all RF generates heat, and what is defined as “non-thermal” is only a function of our ability to measure the temperature increase.”

3. Magda Havas, BS, PhD

“I work with people who have become **electrically hypersensitive** (EHS) and I have received emails and phone calls from those who have had smart meters placed on their homes. They complain of ill health and many are unable to use the room closest to the smart meter. These individuals have no place to “hide” from the growing levels of electrosmog especially in densely populated urban centers. Sickness contributes to time off work and away from school, growing medical costs and a general poorer quality of life. Children are particularly vulnerable as are pregnant women and those with compromised immune systems. The presence of metal implants in the body (such as metal pins in bones) may concentrate the absorption of radiation at the location of implantation, inducing thermal effects from lower power densities than would ordinarily cause such harm (Massey 1979). Some implants, such as pace makers and deep brain stimulators for Parkinson’s disease, may malfunction and this can be fatal. In Switzerland about 5% of the population has EHS. If the same fraction of the population has EHS in the US that would come to a staggering 15 million people!”

4. L. Lloyd Morgan-Senior Research Fellow, Environmental Health Trust

“In the absence of information, and in the presence of a multitude of reports of ill health, incorrect meter readings, electromagnetic interference (EMI) to other electrical equipment (and possibly EMI from other equipment to the smart meter itself), there is a serious dereliction of duty by the government of California to protect its citizens’ health and well being.

Microwave Modulation: Different Effects from Different Modulation Techniques

As a general statement, scientific studies that have examined un-modulated RF exposures [8] have rarely reported adverse health effects. But when any form of modulation is introduced, even turning the carrier frequency on and off once every 20 minutes, biologic effects are commonly found. Here is an example of how important specific modulation techniques can be. When human fibroblast cells were exposed to GSM9 modulated cellphone radiation, the REFLEX project10 found that genotoxic (DNA damage) effects began at a SAR=0.3 W/kg11 [28]. However, in another REFLEX study, which exposed human fibroblast cells to UMTS12 modulated cellphone radiation,

effects were found beginning at a SAR=0.05 W/kg [29]. In other words, a UMTS modulated signal is 6 times more efficient in causing DNA damage to human cells than is a GSM modulated signal.”

Morgan notes studies within the past 15 years yielding statistically significant results indicating positive correlations with the following health effects:

“Brain cancer, acoustic neuroma, meningioma, salivary gland tumors, eye cancer, human testicular cancer and sperm damage, leukemia, in-vivo studies: damaged sperm, in –vivo studies: blood-brain-barrier leakage., Modulation differences induced 6-fold difference in threshold of genetic damage to cells, In-vitro Studies: Genetic damage to cells including human sperm cells.”

5. Daniel Hirsch-nuclear policy expert

“When two of the most central errors are corrected – the failure to take into account duty cycles of cell phones and microwave ovens and the failure to utilize the same units (they should compare everything in terms of average whole body exposure) **the cumulative whole body exposure from a Smart Meter at 3 feet appears to be approximately two orders of magnitude higher than that of a cell phone, rather than two orders of magnitude lower.**” (his emphasis).

On February 3, 2011 the prestigious Karolinska Institutet in Sweden issued a press release entitled: **Scientists Urge Halt of Wireless Rollout and Call for New Safety Standards: Warning Issued on Risks to Children and Pregnant Women [13]**

“Scientists who study radiofrequency radiation from wireless technologies have issued a scientific statement warning that exposures may be harming the development of children at levels now commonly found in the environment. Pregnant women are cautioned to avoid using wireless devices themselves and distance themselves from other users.

The Seletun Scientific Statement has now been published in Reviews on Environmental Health (2010; 25: 307-317). The article recommends that lower limits be established for electromagnetic fields and wireless exposures, based on scientific studies reporting health impacts at much lower exposure levels. Many researchers now believe the existing safety limits are inadequate to protect public health because they do not consider prolonged exposure to lower emission levels that are now widespread.

Current US and ICNIRP standards for radiofrequency and microwave radiation from wireless technologies are entirely inadequate. They never were intended to address the kind of exposures from wireless devices that now affect over 4 billion people. We are already seeing increases in health problems such as cancer and neurobehavioural impairments, even though these wireless technologies are fairly new in the last decades or so for the general public. This finding suggests that the exposures are already too high to protect people from health harm. Safety standards also ignore the developing fetus, and young children who are more affected. Pregnant women and children of all ages should avoid using cell and cordless phones given the health effects we are seeing already.

Many countries are promoting wireless communications on a community-wide scale for energy management and conservation. The SmartGrid concept could require every home to have a wireless electric and gas meter in place of their existing meters. If implemented, it will greatly increase the intensity of new wireless emissions in homes, schools and every other building that uses electricity and gas.

The Scientific Panel urges a halt to the rollout of new wireless technologies, especially those that cause exposures for pregnant women and for children. New, biologically-based exposure limits are crucial to guide new technology development toward solutions that are not harmful to health. The global rollout of wireless technologies has outpaced both health studies and calls for more restrictive public safety limits.”[14]

In the full **Selentun Scientific Statement**, two recommendations include:

1. *“The Panel recommends against the use of cordless phones (DECT phones) and other wireless devices, toys and baby monitors, wireless internet, wireless security systems, and wireless power transmitters in SmartGrid-type connections that may produce unnecessary and potentially harmful EMF exposures.*
2. *The Panel strongly discourages the technology that allows one mobile (cell) phone to act as a repeater for other phones within the general area. This can increase exposures to EMF that are unknown to the person whose phone is —piggy-backed upon without their knowledge or permission.”* (Substitute smart meters for mobile phones in this statement and the same thing applies). [15]

Less than 2 weeks after the PUC’s First Order in this matter, The International Agency for Cancer Research/World Health Organization (IARC/WHO) on May 31, 2011 issued a press release announcing it had classified radiofrequency electromagnetic fields as **possibly carcinogenic to humans (Group 2B)**, (emphasis added) based on an increased risk for glioma, a malignant type of brain cancer, associated with wireless phone use. [16] While the release and initial report [17], published in The Lancet Oncology (online June 22, 2011) mentioned cell phones, findings were not limited to phones and, in fact, covered occupational exposures to radar and microwaves; environmental exposures associated with transmission of signals for radio, television and wireless telecommunication; and personal exposures associated with the use of wireless telephones. The new WHO report was not available to the Maine CDC at the time the CDC made its findings known to the Commission.

Other items on the 2B list include: DDT, benzofuran, chlordane, chloroform, 4,4'-Diaminodiphenyl ether, diesel fuel, 2,6-Dinitrotoluene, gasoline, lead, Polybrominated biphenyls, styrene, Toluene diisocyanates, and 4-Vinylcyclohexene. [18]

It’s important to remember how conservative WHO is with their IARC listings and of course that these listings only deal with cancer, not other adverse health effects. Consider the following toxic substances of the many classified as Category 3 (less carcinogenic than 2B): Aldicarb (active ingredient in the pesticide Temik), Aldrin, Bisphenol A diglycidyl ether (BPA), coal dust, Dieldrin, Malathion, mercury, sulfur dioxide and toluene. [19]

It’s highly unlikely the Board of Pesticide Control or the DEP would endorse unprotected and unrestricted exposures to virtually any of these substances and yet the PUC has decided consumers must actually pay to avoid exposures to an invisible substance in the same or worse categories as those above. When safety, justice and reasonableness are all primary aspects of the PUC mission and yet the Commissioners order consumers pay to avoid the risks described above, the Orders strain any reasonable definition of credulity and beg the question, does the PUC represent the utilities industry or Maine Citizens?

In California, as of June 23, 2011, the County of Santa Cruz, as well as the Cities of Capitola and Watsonville, have adopted urgency ordinances prohibiting the installation of wireless “smart” meters within their jurisdictions. Forty-three local governments throughout the state have formally demanded a halt to the program because of concerns about health, privacy, accuracy, and fire safety. [20]

Connecticut’s Attorney General George Jepson rallied against the costs of his state’s smart grid after a pilot project showed no energy savings at all and a cost to ratepayers of at least \$500 million. If the PUC went ahead he cautioned the deployment be “surgical” and only provide installations to those customers requesting (Opt In?) and able to pay for them. [21] Similar results have been reported all over the country [22] including Bath, ME.

CMP has joined an industry denying mounting evidence RF radiation damages DNA strands. As reported by CBC News, insurers are starting to refuse cell phone companies liability coverage for health problems from non-ionizing radiation. [23] And in another CBC interview on MoxNews it’s noted cell phone manufacturers are using tactics from the tobacco industry to hide the truth while Dr. Devra Davis (former Director of the world’s first Center for Environmental Oncology at the University of Pittsburgh Cancer Institute and Professor of Epidemiology at the University of Pittsburgh’s Graduate School of Public Health) calls cell phone RF radiation issues the “most important public health threat of our generation.” [24]

As described in the **Sage Report**: *“Safety standards for peak exposure limits to radiofrequency have not been developed to take into account the particular sensitivity of the eyes, testes and other ball shaped organs. There are no peak power limits defined for the eyes and testes, and it is not unreasonable to imagine situations where either of these organs comes into close contact with smart meters and/or collector meters, particularly where they are installed in multiples (on walls of multi-family dwellings that are accessible as common areas).*

In summary, no positive assertion of safety can be made by the FCC, nor relied upon by the CPUC, with respect to pulsed RF when exposures are chronic and occur in the general population. Indiscriminate exposure to environmentally ubiquitous pulsed RF from the rollout of millions of new RF sources (smart meters) will mean far greater general population exposures, and potential health consequences. Uncertainties about the existing RF environment (how much RF exposure already exists), what kind of interior reflective environments exist (reflection factor), how interior space is utilized near walls), and other characteristics of residents (age, medical condition, medical implants, relative health, reliance on critical care equipment that may be subject to electronic interference, etc) and unrestrained access to areas of property where meter is located all argue for caution.” [25]

In May, 2011, the Council of Europe’s Parliamentary Assembly released its report: **The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment**. Amongst the conclusions:

“63. The potentially harmful effects of electromagnetic fields on the environment and human health have not yet been fully elucidated and a number of scientific uncertainties continue to exist in that regard. Nevertheless, anxieties and fears remain in wide sectors of the population over the health hazards posed by the waves, and also of the demands voiced by high-level scientists, by groupings of doctors and by the associations of concerned citizens which abound in many Council of Europe member states.

64. The precautionary principle and the right to a healthy environment, particularly on behalf of children and future generations, must be key factors in all economic, technological and social

development of society. In that regard, the Parliamentary Assembly has decided on several previous occasions (see Recommendation 1863 (2009) on environment and health: better prevention of environment-related health hazards and Recommendation 1959 (2011) on preventive health care policies in the Council of Europe member states) that coherent, effective preventive measures must be taken to protect the environment and human health.

65. *After analyzing the scientific studies available to date, and also following the hearings for expert opinions organized in the context of the Committee on the Environment, Agriculture and Local and Regional Affairs, there is sufficient evidence of potentially harmful effects of electromagnetic fields on fauna, flora and human health to react and to guard against potentially serious environmental and health hazards.” [26]*

In the PUC’s Order (Part II) on this subject, the Commission, in avoiding a decision or the use of a virtually unlimited number of experts it could employ for help in fact-finding, states in III. A.: *“In initiating the Opt-Out Investigation, the Commission specifically stated that it is making no determination on the merits of health, safety, privacy or security concerns with respect to wireless smart meters.”* Yet in its decision, the Commission not only abdicates its responsibility but consistently dismisses concerns Complainants have in all these areas. In ordering a pay-to-opt out scheme, the Commission has, in fact, decided concerns with health, safety, privacy and/or security, should be given less weight than a utility’s desire to use Mainers as a test bed for new and questionable technology. The Commission does this despite proffering no evidence or studies concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure.

Penalizing the class of citizens having concerns regarding this technology is discriminatory. An unbiased and transparent approach, in contrast, would provide ratepayers all of the information on both sides of the issue (not as in the one-sided communication plan) and let them choose. In (almost) true fairness if the program went ahead despite evidence to the contrary regarding health hazards, the smart meter plan would be an opt-in. In a program of true fairness, citizens would not be exposed to “second-hand” RF as is often the case in densely populated areas where in particular, those with electro sensitivities can actually be forced from their homes by neighborhood smart meter RF. The Commission’s decision to order opt out fees is particularly punitive when not supported substantially by evidence smart meters are safe

Privacy and Electronic Trespass

The Commission erroneously attempts to sidestep privacy and electronic trespass issues by offering a pay-to-opt out option yet, by default, builds a bias into the program in its discriminatory action against those with legitimate privacy and trespass concerns. Concerns raised by Complainants Wilkins and Foley-Ferguson have been responded to, by CMP, with the comment *“should be dismissed as without merit.”* [Order Part II]. As with its response to health concerns, we believe the Commission erred in not giving due deference to privacy/trespass issues supported by a sizable weight of evidence.

As the National Institute of Standards and Technology acknowledges, *“the major benefit provided by Smart Grid, i.e. the ability to get richer data to and from customer meters and other electronic devices, is also its Achilles’ heel from a privacy viewpoint.” [27]*

The 4th amendment to the U.S. Constitution is quite clear: *“The right of the people to be secure in*

their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." [28] While it is CMP who is electronically entering the home (also in excess of their terms and conditions of service- thus trespassing), they are acting as an agent of the government (the PUC or State) who has decided to endorse, promote, solicit and award bids to implement the smart meter program as part of a smart grid. The act of smart meters gathering or attempting to (whether obtained or not) information inside the home without a warrant is a clear transgression of the 4th amendment by the PUC/State and trespass by CMP. The only way around this (aside from probable cause and a warrant) can be with complete disclosure and transparency on what information meters will gather, what precautions will be taken with it, how those data will be used and with full permission of the homeowner. Such full disclosure must be inclusive of possible adverse health effects because, if one is harmed in the course of information gathering, that too would constitute "unreasonable", as in "unreasonable search and seizure." If one is forced to pay, to avoid this information gathering, it is extortion plain and simple. Justice Scalia wrote in *Kyllo v. United States*: "*The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy.*" [28] Perhaps, cynically, it's hard to imagine CMP would have any desire to engage in the smart meter project unless there was plenty of money to be made: from DOE grants, layoffs of meter readers and, most importantly, data mining of ratepayer information.

The Commissioners might be tempted to downplay the reach of smart meters (in terms of health effects and) in their role of information gathering because we are, in fact, surrounded by electronic devices that already do so. The key difference is CHOICE. At this point in time at least, casting possible "second-hand radiation effects" aside, we have choices to carry and use radiation emitting devices or not (cell phones, baby monitors, etc.) and a CHOICE of whether we want to transmit personal data over our computer or not. Even in the case of computer cookies, while we could in general opt out by not visiting a web site, or by erasing cookies from our hard drives; some companies have tried to change this and found legal pushback. Quite recently (June, 2011) federal judge George Wu in California approved a settlement in a major "Flash cookies" lawsuit (actually several class action suits consolidated), which alleged that use of the data technology in online advertising violates the privacy rights of millions of internet users every day. [30]

Quantcast and Clearspring, the two major internet marketers named in the suit, have agreed to pay \$2.5 million to settle the claims, \$2 million of which is being distributed to universities and research groups analyzing online privacy issues. Once it came to light that Flash cookies override a computer user's decision to delete traditional HTTP cookies and related personal information, privacy lawsuits were filed in droves. [31]

Paul Lanois in his article Caught in the Clouds: The Web 2.0, Cloud Computing, and Privacy? Published in the November 2011 issue of the Northwestern Journal of Technology and Intellectual Property discusses these issues at length noting at ¶9 "In addition, the monitoring of users' behavior has become increasingly sophisticated. Privacy-conscious consumers previously could usually delete or prevent the installation of cookie files through their Internet browser settings."⁴⁷ However, the tracking technology used "is getting smarter and more intrusive" with the use of "new tools that scan in real time what people are doing on a web page, then instantly assess location, income, shopping interests, and even medical conditions."⁴⁸ The study concluded, "One of the fastest growing businesses on the Internet is the business of spying on American consumers and tracking information."⁴⁹ And at ¶10 "Because of such practices, there has been a push for the government to step in to regulate the Internet and promote greater consumer privacy."⁵⁰ [32] One could say the same thing regarding a smart meter system as is said here about the internet only one has a no-penalty opt out of cloud computing

and internet browsing with cookie exposure. Complainants incorporate not only Lanois, but his references as well.

The Electronic Privacy Information Center has this to say: *"Privacy implications for smart grid technology deployment centers on the collection, retention, sharing, or reuse of electricity consumption information on individuals, homes, or offices. Fundamentally, smart grid systems will be multi-directional communications and energy transfer networks that enable electricity service providers, consumers, or third party energy management assistance programs to access consumption data. Further, if plans for national or transnational electric utility smart grid systems proceed as currently proposed these far reaching networks will enable data collection and sharing across platforms and great distances.*

A list of potential privacy consequences of Smart Grid systems include:

- 1. Identity Theft*
- 2. Determine Personal Behavior Patterns*
- 3. Determine Specific Appliances Used*
- 4. Perform Real-Time Surveillance*
- 5. Reveal Activities Through Residual Data*
- 6. Targeted Home Invasions (latch key children, elderly, etc.)*
- 7. Provide Accidental Invasions*
- 8. Activity Censorship*
- 9. Decisions and Actions Based Upon Inaccurate Data*
- 10. Profiling*
- 11. Unwanted Publicity and Embarrassment*
- 12. Tracking Behavior Of Renters/Leasers*
- 13. Behavior Tracking (possible combination with Personal Behavior Patterns)*
- 14. Public Aggregated Searches Revealing Individual Behavior*

Plans are underway to support smart grid system applications that will monitor any device transmitting a signal, which may include non-energy-consuming end use items that are only fitted with small radio frequency identification devices (RFID) tags may be possible. RFID tags are included in most retail purchases for clothing, household items, packaging for food, and retail items." [33]

And they conclude in part:

"Public electric utility companies are installing new meter technology and offering smart meters to monitor customer consumption of electricity. Some utilities are offering lower utility rates in exchange for customers agreeing to the installation of smart meters. What might not be well known is the capacity of these new data collection systems to monitor electric utility use within a home or office space. This can include consumption of new appliances fitted with technology that would allow the monitoring of their use inside homes and businesses. The move from an Internet of people to the "Internet of things" means that many appliances would come with unique Internet protocol addresses and wireless communication applications. How these devices might be used to collect information on their use, and who would have access to that information, and for what purpose is still unknown. The key to privacy protection is to have the user maintain control over the collection, use, reuse, and sharing of personal information including their use of electricity." [34]

Even appliance manufacturers share this last point probably understanding they are less likely to sell as many new appliances if consumers see them as being too invasive. The Association of Home Appliance Manufacturers in their December 2009 white paper on the smart grid [35] state at 14: *"The*

boundary of the utility's reach should end at the smart meter. Communication or interaction inside the home should be under the control of the consumer. Ideally, the smart meter should appear to the residence as a one-way, read-only device to provide pricing, usage, and requests for load reduction."

And at 15: "The architectural design of having the utility exchange multiple messages and acknowledgements with a single device is the current practice with some smart meter pilot projects. The problem is that the practice does not scale into the future where many appliances and devices will be participating as a networked home following the preferences and procedures determined and controlled by the consumer.

*In some Smart Grid use cases and scenarios, there is the notion of an emergency command from the utility to stop an appliance mid-cycle that cannot be overridden by the consumer. AHAM believes the implementation of this functionality is not acceptable. Utilities have no expertise in controlling appliances in a home. While appliances are manufactured to ensure basic safety and functionality while in use, consumers should always be able to override a remote signal to the appliance. Appliances are an essential part of the development of a Smart Grid and **eliminating any concerns of invasions of privacy should be a primary objective to increase household participation and involvement.***

An interruption and subsequent resumption of operation by a utility directed by someone in a remote location with no expertise and for which the product has not been designed and tested might subject the consumer to unexpected risks and consequences, especially in products that have heating elements and motors. Standards development organizations must incorporate these safety expectations into all use case and requirements discussions related to consumer-based products. The consumer and/or appliance must always retain control and management of itself. The simplest and most straightforward way for the utility to verify that its message was received and the load was reduced is to read the meter."

Finally at 16 the manufacturers express the criticality of doing what it takes to remove any possibility invasion of privacy: "Additionally, many consumers have growing concerns over the amount of data collected about their lives and for what reasons that information may be used. Intensive monitoring and registration of appliances and devices within the home can lead to data collection that allows for behavioral patterning and other data mining to be completed on individuals and groups of consumers. Regardless of the intent, this perception can cause concern from members of the population about the perceived invasion to their privacy and create an unnecessary hurdle to people becoming excited about participating in the Smart Grid. These concerns should be put to rest. It is important that the management of energy consumption and device profiles remain within the realm of the home and be invisible to the utilities in order to prevent such data mining, unless the consumer specifically allows it. Furthermore, it is critical that significant privacy policies and violation penalties be in place for Smart Grid programs to ensure protection of the user and their privacy and protect against use and collecting of data without consumer approval.

AHAM is also concerned that the smart meter pilot projects of today, which in many cases allow utilities to receive information about how a consumer uses their appliances, will result in the default course for the future. This would severely limit the Smart Grid's effectiveness and wide-spread participation, because today's pilots may not comply with Smart Grid standards that are currently under development and ensure consumer privacy. A more flexible, scalable, and consumer-centric approach is required to achieve the Smart Grid Vision."

Comments from the Electronic Privacy Information Center and a host of coordinating organizations regarding the Draft NIST Interagency Report on Smart Grid Cyber Security note:

"Because Smart Grid technology can gather detailed information about individual and family activities at home, privacy is a crucial concern: law enforcement today uses utility records, and the expected increase in amount and detail of information available through utilities with the Smart Grid will fuel demand for data about home activities that should only be available to government with a warrant. Privacy of the home can only be adequately protected in the Smart Grid if it is analyzed together with Smart Grid policy and architecture. Clear standards are needed as to what information (and how much and how detailed) is transmitted or available to utilities. System architecture (e.g. centralization vs. decentralization, network nodal structure) may permit significant minimization of data and detail; if homes and neighborhoods have significant computing capacity in local devices and networks, much monitoring, calculation and analysis of energy usage can be done locally, obviating utility data collection in the first place." (In other words, a watt meter in the home could provide the same energy usage information) Parenthesis added [36]

Elias Leake Quinn, on page 3 of his 2009 presentation *Smart Metering & Privacy: Existing Law and Competing Policies*, presents a very detailed graph showing how smart meters can profile consumers through the monitoring of appliance usage. [37] This graph is cited in NISTIR 7628, Guidelines for Smart Grid Cyber Security: Vol. 2, Privacy and the Smart Grid as Figure 5-1: Power Usage to Personal Activity Mapping.[38] Just below the graph at 13 the NIST report states: *"However, such detailed information about appliance use can also reveal whether a building is occupied or vacant, show residency patterns over time, and reflect intimate details of people's lives and their habits and preferences inside"* Complainants incorporate by reference all three NISTIR 7628 volumes.[39]

According to the National Institute of Standards and Technology (NIST):

"The Smart Grid will greatly expand the amount of data that can be monitored, collected, aggregated, and analyzed. This expanded information, particularly from energy consumers and other individuals, raises added privacy concerns. For example, specific appliances and generators can be identified from the signatures they exhibit in electric information at the meter when collections occur with great frequency as opposed to through traditional monthly meter readings. This more detailed information expands the possibility of intruding on consumers' and other individuals' privacy expectations."

The research behind the material presented in this chapter focused on privacy within personal dwellings and electric vehicles and did not address business premises and the privacy of individuals within such premises. The researchers' conclusions based upon work in these primary areas are as follows:

- 1. Evolving Smart Grid technologies and associated new types of information related to individuals, groups of individuals, and their behavior within their premises and electric vehicles introduce privacy risks and challenges that have not been tested and may or may not be mitigated by existing laws and regulations.*
- 2. New Smart Grid technologies, and particularly smart meters, smart appliances, and similar types of endpoints, create new privacy risks and concerns that may not be addressed adequately by the existing business policies and practices of utilities and third-party Smart Grid providers.*
- 3. Utilities and third-party Smart Grid providers need to follow standard privacy and information security practices to effectively and consistently safeguard the privacy of personal information.*

4. Most consumers probably do not understand their privacy exposures or their options for mitigating those exposures within the Smart Grid. [40]

Based on initial research and the details of the associated findings, a summary listing of all recommendations includes the following points for entities that participate within the Smart Grid:

- 1. Conduct pre-installation processes and activities for using Smart Grid technologies with utmost transparency.*
- 2. Conduct an initial privacy impact assessment before making the decision to deploy and/or participate in the Smart Grid. Additional privacy impact assessments should be conducted following significant organizational, systems, applications, or legal changes—and particularly, following privacy breaches and information security incidents involving personal information, as an alternative, or in addition, to an independent audit.*
- 3. Develop and document privacy policies and practices that are drawn from the full set of Organisation for Economic Cooperation and Development (OECD) Privacy Principles and other authorities (see 5.4.1 “Consumer-to-Utility PIA Basis and Methodology”). This should include appointing personnel responsible for ensuring privacy policies and protections are implemented.*
- 4. Provide regular privacy training and ongoing awareness communications and activities to all workers who have access to personal information within the Smart Grid.*
- 5. Develop privacy use cases that track data flows containing personal information to address and mitigate common privacy risks that exist for business processes within the Smart Grid.*
- 6. Educate consumers and other individuals about the privacy risks within the Smart Grid and what they can do to mitigate them.*
- 7. Share information with other Smart Grid market participants concerning solutions to common privacy-related risks. [41]*

Additionally, manufacturers and vendors of smart meters, smart appliances, and other types of smart devices, should engineer these devices to collect only the data necessary for the purposes of the smart device operations. The defaults for the collected data should be established to use and share the data only as necessary to allow the device to function as advertised and for the purpose(s) agreed to by Smart Grid consumers.

There is also the possibility of utilities possessing new types of data as a result of the Smart Grid for which they have not to date been custodians. These new types of data may be protected by regulations from other industries that utilities did not previously have to follow. As is revealed by the privacy impact assessment that is the subject of section 5.4 of this chapter, there is a lack of privacy laws or policies directly applicable to the Smart Grid. Privacy subgroup research indicates that, in general, state utility commissions currently lack formal privacy policies or standards related to the Smart Grid. Comprehensive and consistent definitions of privacy-affecting information with respect to the Smart Grid typically do not exist at state or federal regulatory levels, or within the utility industry.

However, the Supreme Court in Kyllo clearly reaffirmed the heightened Fourth Amendment privacy interest in the home and noted this interest is not outweighed by technology that allows government agents to “see” into the suspect’s home without actually entering the premises. The Court stated, “We think that obtaining by sense-enhancing technology any information regarding the interior of the home that could not

otherwise have been obtained without physical intrusion into a constitutionally protected area, constitutes a search and is presumptively unreasonable without a warrant." (emphasis added)

Second, unlike the traditional energy grid, the Smart Grid may be viewed as carrying private and/or confidential electronic communications between utilities and end-users, possibly between utilities and third parties, and between end-users and third parties. Current law both protects private electronic communications and permits government access to real-time and stored communications, as well as communications transactional records, using a variety of legal processes. Moreover, under the Communications Assistance for Law Enforcement Act (CALEA), telecommunications carriers and equipment manufacturers are required to design their systems to enable lawful access to communications. The granular Smart Grid data may also have parallels to call detail records collected by telecommunications providers. It is unclear if laws that regulate government access to communications will also apply to the Smart Grid.

In short, the innovative technologies of the Smart Grid pose new legal issues for privacy of the home, as well as any type of property location that has traditionally received strong Fourth Amendment protection. As Justice Scalia wrote in *Kyllo*: "The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy." [42]

NIST concludes in part:

"5.8 SMART GRID PRIVACY SUMMARY AND RECOMMENDATIONS

5.8.1 Summary

Based upon the work and research done over the past year, the privacy subgroup reached the following conclusions:

1. The evolving Smart Grid technologies and associated new types of information related to individuals, groups of individuals, and premises may create privacy risks and challenges that are not fully addressed or mitigated by existing laws and regulations with regard to energy consumption, energy generation, billing, third-party Smart Grid applications data, and other related Smart Grid data.
2. New Smart Grid technologies, particularly smart meters, smart appliances, and similar types of endpoints, may create new privacy risks and concerns that may not be addressed adequately by the existing business policies and practices of utilities and third-party Smart Grid providers.
3. Utilities and third-party Smart Grid providers need to follow recognized privacy practices in a consistent and comprehensive fashion to effectively safeguard Smart Grid personal information and consumer privacy. Existing policies should be evaluated and revised, as required.

5.8.2 Recommendations

Choice and Consent. An organization should clearly, fully, and accurately describe the choices available to individuals, and to the extent practicable, obtain explicit approval for the collection and use of their personal information. Consumers should have the option to forgo data collection and services that are not related to the core services provided by the organization. (While to some customers receiving a communications brochure- choices are explained, implications are not. The core of CMP's service is transmission of energy and billing for such-that's it.)

Collection and Scope. Only personal information that is required to fulfill the stated purpose specified under the Notice and Purpose principle should be collected. Treatment of the information should conform to these privacy principles.” [43]

CMP's rights are limited essentially to providing, accessing and servicing their meters. Their terms and conditions of service state the following:

“215. ACCESS TO PREMISES

The Company shall have the right of access, by the Company's standard vehicles and equipment, to a customer's premises and to all property furnished by the Company installed therein at all reasonable times during which service is furnished the customer, and on or after its termination, for the purpose reading meters, or inspection and repair of devices used in connection with its service, or removing its property, or for any other proper purpose.” [44]

Foley-Ferguson et al. in their May 16, 2011 **Letter to the Commissioners Urging No Cost Opt Outs** [which is not addressed in either Part I or Part II of the Order] speaks to this issue:

“1. Rights of CMP Easement

According to the law, CMP has the right to enter the property of any individual to read and to maintain its meter to provide electricity to the (solely) person(s) who has (have) agreed to service. This is called an easement. Electric meters remain the property of CMP. There is nothing, however, in CMP's easement that legitimizes the installation of a sending and receiving antenna that transmits other people's data without the express consent of the owner to transmit data other than their own. CMP has no rights to use a person's residence for business purposes other than providing electric service to the owner as agreed. Other easement violations include allowing RF into homes, and collecting data without express permission of owner”.

These and other claims to implied or expanded rights are also addressed in the Wilkins Complaint:

“CMP will tell you that they have a contractual right of way to your electric meter box and that is true but that right of way ends at the meter box. Their right of way does not extend into the interior of our homes. We did not agree to let them use the interior of our homes and bodies when we signed up with them for electric service. We just agreed to let them bring the electricity to the electric box; and from that point our house wiring uses that electricity and we pay for it.

CMP's new meters send radiofrequency radiation into the interior of our homes to collect not only our usage data but also to transmit all of our neighbor's data. CMP has estimated that your smart meter could SEND up to 15,400 Radiofrequency transmissions per day. This means not only will your smart meter be sending RF radiation 15,400 times per day but could also be receiving RF radiation from neighbors meters who are sending their data to your meter for another possible 15,400 times per day. CMP says these estimated transmissions only last a fraction of a second for each transmission but they occur all night and all day. CMP is using the interior of our homes to collect not only our data... but other peoples, without our permission... without paying us for that privilege.... and without due process of law. So not only is this against the Maine Constitution... but also the 5th and 14th Amendment... to the US Constitution which prohibits anyone from taking or using our property without compensation and due process of the law.”

Now we are sliding into trespass issues allowing for commerce wherein CMP has set up a place of business on the side of your house to move not just your information but those of others. This goes far beyond their handbook description: reading the meter. Again from the Foley-Ferguson May 16 letter:

"2. RF Mesh Holes Equal Biggest Cost-Opt outs should not pay

The possible holes in the system created by CMP's lack of ability to use an individual's home for a repeater and sender of other peoples data has been shown by CMP and PUC staff to be the highest additional AMI cost associated with opt outs. (see spreadsheet) This is because of the method by which an RF mesh system operates. According to law, the use of each individual home, however, is limited to providing that home with electricity; not to provide a facility for CMP to store and move other people's data. Thus, any cost born by customers who choose to opt out for moving other people's data is unjust, discriminatory, and unreasonable.

Individuals who opt out of the smart meter program should not pay CMP a fee because they have created holes in CMP's "business plan", or mesh. As an example, what happens when an impenetrable skyscraper is built in Portland that obstructs the "mesh" transmissions and requires CMP to install another repeater? Over the years, it is likely to happen. Does the owner of the skyscraper pay? No. It is simply a characteristic of the "mesh", that CMP will need to adjust it's locations of repeaters. Opt out customers should not pay for repeaters.

Opt outs do not create a situation where a resident's own energy usage cannot be measured. The agreement between a homeowner and CMP that is required in order to receive service says nothing about transmitting other people's energy usage".

In a 5/20/2011 email response to a question from the lead complainant in this complaint, Richard Davies, Maine Public Advocate, replied:

"The right to place a meter on your house comes from the customer applying for electric service. By applying for service you grant the utility the right to place a meter in order to measure your electric consumption. The PUC rules state that the utility determines the nature and technology of the meter it places on a customer's property. Implied in this is the right to test, service, repair or replace the meter, and the right to have access to the meter for these purposes.

There is nothing I can find in the rules regarding the issue of the operation of a meter "intruding into the building" such as in the form of RF radiation, but I expect to see the Commission address this issue when they issue Part 2 of their decisions regarding the four "smart meter" 10-person complaints they decided in mid-May. Part 1 has been issued, but deals just with the opt-outs they approved. We don't know when Part 2 will be issued. It will be filed under each of the four dockets (2010-345, 2010-389, 2010-398, and 2010-400).

This issue might be "ripe" for litigation since the technology being used by CMP involves the transmittal of a meter's data wirelessly not directly to the utility, but via a "mesh" system that uses the antennas on each meter to relay data from other meters on to a collector which then transmits it along to the utility. As Suzanne Foley-Ferguson (Docket No. 2010-398) argued, this allows CMP to use a customer's home as a place of the utility's business to serve other customers and not just the customer at that location. This, combined with the health issue, may create a legal situation that falls outside the bounds of settled law." [45]

Conclusion

We reiterate our request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to provide relief as follows: 1) Stay the installation of further smart meters, or 2) Should further installations not be stayed, order future installations to be Opt In, and 3) Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters. 4) Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices; privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent. 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. We also request the Commission establish a database where such complaints will be recorded. This hot line number shall be prominently displayed on CMP bills and in the communication plan.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. As Suzanne Foley-Ferguson writes in Friends of Merrymeeting Bay's Spring 2011 Newsletter- *Merrymeeting News*: "*Indeed, considering our bodies are essentially masses of electrically charged particles, it would be a surprise if we were not affected by RF.*" [46] The PUC does not adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

The Commission's second Order addresses cost issues to opt-out ratepayers by noting AMI smart meters are now CMP's standard meter and using past practices as an example of how to act here, if a ratepayer wants a non-standard option [underground lines for example], they should pay the incremental costs of the alternative. The fatal flaw in this logic, as stated earlier, is the options carry very different risks. Assuming you are one of the vast majority who have electricity, there really is no just and reasonable choice if you are discriminated against and penalized through additional fees for protecting yourself and your family. Knowing smart meters carry a very real or at least the strong possibility of very real risks, and still ordering CMP charge ratepayers a premium to opt out or avoid these risks, the Commissioners create, in this case, a situation not only discriminatory but unsafe, unjust and unreasonable, anathema to the PUC mission: *regulating electric, gas, telephone and water utilities to ensure that Maine citizens have access to safe and reliable utility services at rates that are just and reasonable for all ratepayers.*

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Appendix 1 - Signature Pages

(PUC Smart Meter Complaint July 29, 2011)

Complainants

1. Ed Friedman
2. Kathleen McGee
3. Dorothy Kelly
4. Chester Gillis
5. Eleanor Gillis
6. Cynthia Atkinson
7. Nancy Gray
8. Andrew Fiori
9. Melissa Fiori
10. Julian Holmes
11. Audrey Marra
12. Charlotte Iserbyt
13. Deborah Burk
14. Dan Burk
15. Regina Stilphen
16. Donna Giroux
17. Bryan Hardacker
18. Jeanne Johnson
19. Joe Ciarroco

Ten-Person Complaint Pursuant to 35-A M.R.S.A. Section 1302 Regarding “Smart Meters” & “Smart Meter” Opt-Out as Promulgated by the Maine Public Utilities Commission (MPUC).

WE, the undersigned** aggrieved Complainants, are customers of Central Maine Power (CMP). While this complaint is based on proposals and actions by CMP, the complaint is directed not only at CMP for levying what, given the facts, must be an unreasonable, unjust and discriminatory fee against ratepayers choosing to opt out of the smart meter program, but also at the PUC because of its May 19 and June 22, 2011 Orders (Part I and Part II) requiring CMP customers to pay the utility, should they, the ratepayer, elect to opt out of the program.

WE request the Public Utility Commissioners open an investigation for the purpose of examining this issue since *new and important evidence specifically addressing non-ionizing radiation* of the type emitted by smart meters, has been published earlier this year and also after the May 19 Order, and was not considered in either Order (in fact its absence was cited by the Maine CDC as supporting a lack of adverse health effects). Furthermore, privacy/electronic trespass concerns have not been adequately considered in previous Orders and *new information for the Commissioners on privacy/electronic trespass issues* is also presented here. The complaint enters other electronic trespass and health evidence including privacy guidelines, which may not have been raised in earlier complaints or be a part of the record.

WE hereby request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to satisfy it including amending the previous Orders as follows:

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- 2) Should further installations not be stayed, order future installations to be Opt In, and
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- 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. We also request the Commission establish a database where such complaints will be recorded. This hot line number shall be prominently displayed on CMP bills and in the communication plan.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. Neither does the PUC adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems in these areas. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

** Signature pages attached as Appendix 1

address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Dorothy Kelly
Utility Acc. # 514-024-8140-012 Telephone Number 207-443-4787
Printed Name Dorothy Kelly
Address 98 Pleasant Cove Rd. Phippsburg, Me 04562

Signature [Signature] Lead Complainant.
Utility Acc. # 211-022-0491-015 Telephone Number 666-3372
Printed Name Ed Friedman
Address 42 Stevens Rd., Bowdoinham, Me 04008

Signature [Signature]
Utility Acc. # _____ Telephone Number 207-666-3598
Printed Name Kathleen McGee
Address 30 Stevens Rd, Bowdoinham, Me 04008

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Introduction

As the Commissioners and PUC staff should well know, smart meters, so-called, have no shortage of critics due to many proven and possible problems associated with them including:

1. Adverse health effects
2. Constitutional privacy violations
3. Interference with other wireless devices
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5. Effects on wildlife
6. Inaccurate readings-over-billing
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Signature

Utility Acc. #

Telephone Number

Printed Name

Address

Signature

Utility Acc. #

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Signature Cynthia Atkinson
Utility Acc. # 441-157-7732-004 Telephone Number 883-4276
Printed Name Cynthia Atkinson
Address 10 Teal Pt. Dr. Scarborough, Me. 04074

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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Printed Name _____

Address _____

Signature _____

Utility Acc. # _____ Telephone Number _____

Printed Name _____

Address _____

Signature Nancy D Gray 514 040-3225-001 231 025 7890-001 865-6319
Utility Acc. # 514-040-3225-001 Telephone Number 865-6319
231-025-7890-001 785-2816 785-2816

Printed Name NANCY DYER GRAY

Address 204 Main Street Freeport Me 04032 - Sherman Mills Road
+ Gurney Town Road Appleton Me

Signature 204 Main Street Freeport, Maine 04032

Utility Acc. # _____ Telephone Number _____

Printed Name Sherman Mills & Gurney Town Rd

Address Appleton, Me

Introduction

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The PUC has recently debated many of these issues in Dockets 2010-120; 2010-345; 2010-346; 2010-389; 2010-398; 2010-400 and 2011-085. [1] This complaint incorporates by reference all evidence, oral and written, submitted in the aforementioned dockets while introducing recent compelling evidence from the World Health Organization's International Agency for Research on Cancer (WHO/IARC) and further discussing privacy/electronic trespass issues.

While one might think the Commission should be commended for offering an Opt Out; in reality the net result may do more harm than good as it attempts to legitimize a seriously flawed product, foist this product on an unsuspecting public, and couch what is nothing more than a text book illustration of extortion as "associated costs of that option". [2]

Signature 

Utility Acc. # Telephone Number

~~207-666-8419~~ (207) 666-8419 / 5140500397002 CMP#

Printed Name ANDREW FIORI

Address 212 FISHER RD. BOWDOINHAM, ME. 04008

Signature 

Utility Acc. # Telephone Number

5140500397002 phone# 207-666-8419

Printed Name Melissa M. Fiori

Address 212 Fisher Rd Bowdoinham, Maine 04008

Signature

Utility Acc. # Telephone Number

Printed Name

Address

Signature

Utility Acc. # Telephone Number

Printed Name

Address

Introduction

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address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Julian C. Holmes

Utility Acc. # 211-0272371-012 Telephone Number 207 685 9057

Printed Name JULIAN C. HOLMES

Address 66 LORD ROAD, WAYNE, ME 04284

Signature Audrey S. Marra

Utility Acc. # 211-0272371-012 Telephone Number 207-685-7329

Printed Name AUDREY S. MARRA

Address 66 LORD ROAD, WAYNE, ME 04284

Introduction

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record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Charlotte T. Serby
Utility Acc. # 5350042916017 Telephone Number 207-737-4730
Printed Name CHARLOTTE T. SERBY
Address 519 River Rd., Dresden, Me. 04342

Signature Deborah A. Burk
Utility Acc. # 535 004 2921 013 Telephone Number 207 737-4034
Printed Name Deborah A Burk
Address 530 River Rd Dresden, Me 04342

Signature Dan Burk Dan Burk
Utility Acc. # 535 004 2921 013 Telephone Number 207 737-4034
Printed Name Dan Burk
Address 530 River Rd Dresden, ME 04342

Signature Regina S. Stipphen
Utility Acc. # 211-012-1362-012 Telephone Number 582-4995
Printed Name Regina Stipphen
Address 1241 Wiscasset Rd. Pitts ton, ME 04345

Introduction

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Utilities Commission (MPUC).**

WE, the undersigned aggrieved Complainants, are customers of Central Maine Power (CMP) and hold 10 separate accounts with the utility. While this complaint is based on proposals and actions by CMP, the complaint is directed not only at CMP for levying what, given the facts, must be an unreasonable, unjust and discriminatory fee against ratepayers choosing to opt out of the smart meter program, but also at the PUC because of its May 19 and June 22, 2011 Orders (Part I and Part II) requiring CMP customers to pay the utility, should they, the ratepayer, elect to opt out of the program.

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Signature Donna Giroux
Utility Acc. # 4430-2214 80024 Telephone Number 207 809 0232
Printed Name Donna Giroux
Address 82 Ocean Ave Old Orchard Beach ME 04064

. Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

. Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

. Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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Signature Bryan Hardacker
Utility Acc. # 4430321480024 Telephone Number 207-809-8088

Printed Name Bryan Hardacker

Address 82 Ocean Ave, Old Orchard Beach, ME, 04064

Signature _____

Utility Acc. # _____ Telephone Number _____

Printed Name _____

Address _____

Signature _____

Utility Acc. # _____ Telephone Number _____

Printed Name _____

Address _____

Signature _____

Utility Acc. # _____ Telephone Number _____

Printed Name _____

Address _____

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7. Commerce issues-Electronic Trespass

Utility Acc. # ~~05140202896011~~ Telephone Number ~~207-725-6414~~
Printed Name ~~Joe Ciarracca~~ redone below with signature
Address ~~532 Harpswell Rd. Brunswick, ME. 04011~~
Signature ~~Jeanne Johnson~~

Utility Acc. # ~~05140202896011~~ Telephone Number ~~207-725-6414~~
Printed Name ~~Jeanne Johnson~~
Address ~~532 Harpswell Rd. Brunswick, ME 04011~~
Signature ~~Joe Ciarracca~~

Utility Acc. # ~~05140202896011~~ Telephone Number ~~207-725-6414~~
Printed Name ~~Joe Ciarracca~~
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Ed Friedman • 42 Stevens Rd. • Bowdoinham • ME • 04008 • 207-666-3372
edfomb@comcast.net

ELECTRONICALLY FILED ON (8/3/11)

THIS IS A VIRTUAL DUPLICATE OF THE ORIGINAL HARDCOPY SUBMITTED TO THE
COMMISSION IN ACCORDANCE WITH ITS ELECTRONIC FILING INSTRUCTIONS

August 3, 2011

Karen Geraghty
Maine Public Utility Commission
18 State House Station
Augusta, ME 04333
287-2445
karen.geraghty@maine.gov

RECEIVED
2011 AUG -11 P 12:40
MAINE PUBLIC
UTILITY COM.

Karen,

Please find enclosed (or attached) a new "10 Person Complaint" regarding smart meters directed at both the PUC and CMP. It is submitted by 19 Complainants of whom I am designated as "Lead Complainant." [Original copy emailed 7/29 and USPS mailed 8/30. This copy corrected for a couple of typos, inclusive of c.c. to CMP and properly electronically filed. Hard resent to PUC and sent to CMP].

On behalf of Complainants, I am submitting this Cover Letter, 10-Person Complaint and Appendix 1-Signature Pages electronically today. The identical version in hard copy will be out in tomorrow's mail to you.

If you have any further questions, please don't hesitate to contact me.

Thank you.

Sincerely,


Ed Friedman

C.C.
Richard Davies, Public Advocate
Complainants
CMP

Ten-Person Complaint Pursuant to 35-A M.R.S.A. Section 1302 Regarding “Smart Meters” & “Smart Meter” Opt-Out as Promulgated by the Maine Public Utilities Commission (MPUC) July 29, 2011

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** Signature pages attached as Appendix 1

1. Signature: (LEAD PETITIONER) Ed Friedman

Utility Acc. # 211-022-0491-015 Telephone Number 666-3372

Printed Name: (LEAD PETITIONER): Ed Friedman

Address: 42 Stevens Rd., Bowdoinham, ME 04008

2. Signature /s/ Kathleen McGee

Utility Acc. # 211-022-0467-015 Telephone Number 666-3598

Printed Name: Kathleen McGee

Address: 30 Stevens Rd., Bowdoinham, ME 04008

3. & 4. Signature /s/ Donna Giroux & /s/ Bryan Hardacker

Utility Acc. # 443-022-1480-024 Telephone Number: 809-0232 [DG], 809-8088 [BH]

Printed Name: Donna Giroux & Bryan Hardacker

Address: 82 Ocean Ave., Old Orchard Beach, ME 04064

5. & 6. Signature: /s/ Chester Gillis & /s/ Eleanor Gillis

Utility Acc. # 211-022-0434-011 Telephone Number: 666-3203

Printed Name: Chester and Eleanor Gillis

Address: P.O. Box 233, Bowdoinham, ME 04008

7. Signature: /s/ Charlotte T. Iserbyt

Utility Acc. # 535-004-2916-017 Telephone Number 737-4730

Printed Name: Charlotte T. Iserbyt

Address: 519 River Rd., Dresden, ME 04342

8 & 9. Signature: /s/ Julian Holmes & /s/ Audrey Marra

Utility Acc. # 211-027-2371-012 Telephone Number: 685-7329

Printed Name: Julian Holmes & Audrey Marra

Address: 66 Lord Rd., Wayne, ME 04284

10. Signature: /s/ Cynthia Atkinson _____

Utility Acc. # 441-157-7732-004 _____ Telephone Number 883-4276 _____

Printed Name: Cynthia Atkinson _____

Address: 10 Teal Pt. Dr. Scarborough, ME 04074 _____

11. Signature: /s/ Nancy Gray _____

Utility Acc. # 514-040-3225-001 _____ Telephone Number 865-6319 _____

Printed Name: Nancy Gray _____

Address: 204 Main St., Freeport, ME 04032 _____

12. & 13. Signature: /s/ Deborah Burk & /s/ Dan Burk _____

Utility Acc. # 535-004-2921-013 _____ Telephone Number: 737-4034 _____

Printed Name: Deborah & Dan Burk _____

Address: 530 River Rd., Dresden, ME 04342 _____

14. Signature: /s/ Dorothy Kelly _____

Utility Acc. # 514-024-8140-012. _____ Telephone Number 443-4787 _____

Printed Name: Dorothy Kelly _____

Address: 98 Pleasant Cove Rd, Phippsburg. _____

15 & 16. Signatures: /s/ Andrew & Melissa Fiori _____

Utility Acc. # 514-0500-387-002. _____ Telephone Number 666-8419 _____

Printed Name: Andrew & Melissa Fiori _____

Address: 212 Fischer Rd., Bowdoinham, Me 04008. _____

17. Signature: /s/ Regina S. Stilphen _____

Utility Acc. # 211-012-1362-012. _____ Telephone Number 582-4995 _____

Printed Name: Regina Stilphen _____

Address: 1241 Wiscasset Rd., Pittston, ME 04345. _____

18. & 19. Signature: /s/ Joe Ciarrocca & Jeanne Johnson _____

Utility Acc. # 514-020-2896-011 _____ Telephone Number 725-6414 _____

Printed Name: Joe Ciarrocca & Jeanne Johnson _____

Address: 532 Harpswell Rd., Brunswick, ME 04011 _____

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The PUC has recently debated many of these issues in Dockets 2010-120; 2010-345; 2010-346; 2010-389; 2010-398; 2010-400 and 2011-085. [1] This complaint incorporates by reference all evidence, oral and written, submitted in the aforementioned dockets while introducing recent compelling evidence from the World Health Organization's International Agency for Research on Cancer (WHO/IARC), other health studies and further discussing privacy/electronic trespass issues.

While one might think the Commission should be commended for offering an Opt Out; in reality the net result may do more harm than good as it attempts to legitimize a seriously flawed product, foist this product on an unsuspecting public, and couch what is nothing more than a text book illustration of extortion as "*associated costs of that option*". [2]

In the same press release, Commissioner Vafiades is quoted: "*Based on sound public policy, as allowed by statute and taking into consideration all public correspondence and filings, we conclude that offering a smart meter opt-out option is reasonable and in the public interest. For the long term success of smart meter implementation and to maximize its potential to the fullest, the public needs to be actively engaged in monitoring their usage and real-time price of electricity and modifying their behavior accordingly. To achieve this goal, we need to shift the focus to the benefits of smart meters and allow the small minority to opt out.*" [3]

Complainants disagree strongly that opt out options, certainly as ordered, are either reasonable or in the public interest. In fact we believe the Commission's action requiring ratepayers to pay CMP to avoid possibly harm and to avoid warrant-less information-gathering inside the home, to be the very opposite on both counts. Which is to say the Commission's order appears unreasonable, unjust, discriminatory and against the public interest. Better descriptions of the Commission's actions in somewhat descending order of severity might be "collusion with the utility", "willful negligence", "irresponsible", "arbitrary and capricious", "not substantially supported by evidence-in total or in the record", "remiss" or "uninformed." Commissioner Vafiades attempts to justify smart meters and a smart grid implying this will enable ratepayer to be "*actively engaged in monitoring their usage and real-time price of electricity and modifying their behavior accordingly.*" This rationalization falls flat on its face because right now any ratepayer could purchase, or CMP could supply if they truly cared, a simple watt meter (Kill-A-Watt is a popular brand) enabling real-time monitoring of appliance power use. This meter, at about \$20 retail, is an immediate and effective way for ratepayers to measure and monitor power usage and to upgrade appliances or conserve wherever may be most cost-effective.

The Commission has a mission, one which the Commissioners should be legally bound to execute. As stated on the Commission's web page:

The Maine Public Utilities Commission regulates electric, gas, telephone and water utilities to ensure that Maine citizens have access to safe and reliable utility services at rates that are just and reasonable for all ratepayers. [4]

First and foremost is the adjective "safe." While the Commissioners may be more used to thinking in terms of pipeline or powerline safety (i.e. gas leaks or electrical discharges), there is nothing in the PUC mission limiting the word safety to mechanical issues. As defined at Dictionary.com, "safe" means: 1. secure from liability to harm, injury, danger, or risk 2. free from hurt, injury, danger, or risk 3. involving little or no risk of mishap, error, etc. There is no exclusion for the avoidance of adverse health effects both to humans and wildlife. A pipeline is, for example, built, approved and operated to avoid accidents which could injure people or harm the environment. If such a project was allowed to proceed knowing serious problems existed and had not been corrected, this could lead to serious legal charges. If the true facts were concealed, the charges would, of course, be criminal.

Where the law is concerned, neither ignorance nor abdication of responsibility are excusable. The PUC declared they would make no determination on the merits of health, safety, privacy or security concerns with respect to wireless smart meters. This is, at best, disingenuous considering their mission and the implied assurance that, as an entity, it is their responsibility to assure protection of citizens, not profit to industry or the "hope" for some future benefit that is not at all clear in the factual record.

The Hobbs Act defines "extortion" as "the obtaining of property from another, with his consent, induced by wrongful use of actual or threatened force, violence, or fear, or under color of official right." [5] Thus when the PUC or CMP essentially say through their actions, if the ratepayer doesn't want to be fearful of or risk possibly harmful radiation effects, or doesn't want to be fearful of CMP collecting data (personal property) (to sell or not) about them from within their own homes, then they must pay the utility what is essentially "protection money" to keep their old meter and avoid these sanctioned (under color of official right) risks or threats. If citizens opt out and don't pay, that of course opens up another set of possible consequences for them.

Assuming you are one of the vast majority who have electricity, there really is no fair choice if you are discriminated against and penalized through supplementary fees. Smart meters carry very real, or at very least, the strong threat of very real risks to customers. Knowing this and still ordering CMP charge ratepayers a premium to opt out, the Commissioners create, in this case, a situation unsafe, unjust, discriminatory and unreasonable; anathema to their mission. In the consumer's best interest or not, the Commission endorses smart meters. If the Commission wants, despite the ever-increasing evidence against smart meters, to encourage their use, they should allow or require CMP to provide incentives for those customers who wish to switch, not impose penalties on those customers wishing to ensure their own safety, privacy and reasonable rates.

A Review of Health Effects and Introduction of New Evidence

Research into health effects of low level electromagnetic and RF radiation has been going on over seventy years. In 1971, the Navy Medical Research Institute published a bibliography of over 2,000 studies finding biological health effects from microwave and RF radiation going back to the 1930s. [6] Effects were broken down into the following broad categories, noting as well for each, the number of sub categories (in parentheses) also described and distinguished:

1. Heating of organs (8)
2. Changes in physiologic function (29)
3. Central nervous system effects (9)
4. Autonomic nervous system effects (4)
5. Peripheral nervous system effects (1)
6. Psychological disorders-Human behavioral studies (17)
7. Behavioral Changes-Animal studies (1)
8. Blood disorders (12)
9. Vascular disorders (2)
10. Enzyme and other biochemical changes (13)
11. Metabolic disorders (4)
12. Gastro-intestinal disorders (4)
13. Histological changes (2)
14. Genetic and chromosomal changes (5)
15. Pearl chain effect and orientation of cellular and other particles (1)
16. Miscellaneous effects (10)

It is precisely because of this large spectrum of effects, the military is creating weapons using RF/microwave frequencies. [7]

More recently, the UK group Powerwatch reviewed approximately 1300 EMF/RF studies from the past 20 years organizing the studies into 3 categories: finding effects from exposure or radiation, finding no effects from exposure or radiation or offering important insights but offering neither positive or null findings. As they note:

"When it comes to EMF issues, one of the most frequently heard phrases is: "There is no evidence to support EMFs having health effects" or simply "There is no conclusive evidence."

"We believe that this is completely wrong; there is an enormous body of evidence out there, but public and even academic awareness seems to be very poor. Therefore, we will be presenting a list of papers which either show serious effects or are considered important papers on the subject which we have collected over the years."[8]

In 2007, the BioInitiative Working Group, an international collaboration of prestigious scientists and public health experts from Columbia University and the University at Albany (New York), University of Washington (Seattle), the Karolinska Institute, Umea University and Orebro University Hospital (Sweden), the European Environmental Agency (Denmark) Medical University of Vienna (Austria) and Zhejiang University School of Medicine, (China) released a 650-page report citing more than 2000 studies documenting health effects of EMFs and RF from all sources (pre-smart meters). Chapter titles include:

1. The Existing Public Exposure Standards
2. Evidence for Inadequacy of the Standards
3. Evidence for Effects on Gene and Protein Expression (Transcriptomic and Proteomic Research)
4. Evidence for Genotoxic Effects – RFR and ELF DNA Damage
5. Evidence for Stress Response (Stress Proteins)
6. Evidence for Effects on Immune Function
7. Evidence for Effects on Neurology and Behavior
8. Evidence for Brain Tumors and Acoustic Neuromas
9. Evidence for Childhood Cancers (Leukemia)

10. Magnetic Field Exposure: Melatonin Production; Alzheimer's Disease; Breast Cancer
 11. Evidence for Breast Cancer Promotion (Melatonin links in laboratory and cell studies)
 12. Evidence for Disruption by the Modulating Signal
 13. Evidence Based on EMF Medical Therapeutics
 14. Key Scientific Evidence and Public Health Policy Recommendations
 15. APPENDIX - Ambient ELF and RF levels
- Average residential and occupational exposures

A key finding from the report states: *"Not everything is known yet about this subject; but what is clear is that the existing public safety standards limiting these radiation levels in nearly every country of the world look to be thousands of times too lenient. Changes are needed."*[9]

In the 2008-2010 President's Panel on Cancer Annual Report: Reducing Environmental Cancer Risk: What We Can Do Now, authors observe many of the uncertainties regarding effects from EMFs and RF radiation but nevertheless counsel a precautionary approach: *"Until these questions are answered with some degree of confidence, cell phone users can reduce their exposure to radiofrequency energy by making fewer calls, reducing the length of calls, sending text messages instead of calling, using cell phones only when landline phones are unavailable, using a wired "hands-free" device so that the phone need not be held against the head, and refraining from keeping an active phone clipped to the belt or in a pocket."*[10]

The California Council on Science and Technology released their report Health Impacts of Radio Frequency from Smart Meters in January 2011 [11]. The report was met with a flood of critical comment based on problems with its methods, research, total quality and conclusions. Our complaint incorporates by reference the individual comments on the study as made available on the CCST website [12]. Of particular note are comments from:

1. Karl Maret, MD, BS Electrical Engineering, a MS Biomedical Engineering, four year post-doctoral fellowship in physiology:

"The CCST report further states that, *"Without a clearer understanding of the biological mechanisms involved, identifying additional standards or evaluating the relative costs and benefits of those standards cannot be determined at this time."* I strongly disagree with this conclusion as there is now a large body of scientific literature describing several key mechanisms for the action of weak electromagnetic fields. These include, among others:

Removal of calcium ions bound to cellular membranes, leading to their weakened structure and changed cellular functioning

Change of calcium ion leading to changes in metabolic processes in cells,

The leakage of calcium ions into neurons generating spurious action potentials,

Fragmentation of DNA in cells seen through the Comet assay

Changes in the blood-brain barrier in animals after microwave exposure

Defined cellular stress response, including the production of heat shock proteins (HSP), that are triggered electromagnetically at non-thermal levels that require much less energy than when triggered by heat (so-called thermal considerations)

Activation of specific genes by exposure to non-thermal electromagnetic fields leading to gene transcription to form RNA, the first stage in the synthesis of proteins

All these biological effects are well substantiated in the scientific literature and occurred at much lower exposure levels than current FCC standards, but are minimized by the CCST report.” (Dr. Karl Maret has also given one of the very best presentations on the science of smart meters. This presentation was broadcast September 15, 2010 by Santa Cruz County Community Television as part of their program “The Truth About Smart Meters” and can be viewed online at: <http://www.communitytv.org/programs/online/truth-about-smart-meters>. Maret’s portion of the program begins at :22 minutes and ends at 1:26. Our complaint incorporates this program by reference.)

2. David O. Carpenter MD -University at Albany, State University of New York Institute for Health and the Environment and Department of Environmental Health Sciences School of Public Health (former Dean):

“The statement “*The scientific consensus is that body temperatures must increase at least 1°C to lead to potential biological impacts from the heat*” is totally wrong, and makes it obvious that no persons with medical or biological expertise participated in this report. Every enzyme system in the body is exquisitely sensitive to temperature, and increases activity by even a fraction of a degree increase in temperature. In fact all RF generates heat, and what is defined as “non-thermal” is only a function of our ability to measure the temperature increase.”

3. Magda Havas, BS, PhD

“I work with people who have become **electrically hypersensitive** (EHS) and I have received emails and phone calls from those who have had smart meters placed on their homes. They complain of ill health and many are unable to use the room closest to the smart meter. These individuals have no place to “hide” from the growing levels of electrosmog especially in densely populated urban centers. Sickness contributes to time off work and away from school, growing medical costs and a general poorer quality of life. Children are particularly vulnerable as are pregnant women and those with compromised immune systems. The presence of metal implants in the body (such as metal pins in bones) may concentrate the absorption of radiation at the location of implantation, inducing thermal effects from lower power densities than would ordinarily cause such harm (Massey 1979). Some implants, such as pace makers and deep brain stimulators for Parkinson’s disease, may malfunction and this can be fatal. In Switzerland about 5% of the population has EHS. If the same fraction of the population has EHS in the US that would come to a staggering 15 million people!”

4. L. Lloyd Morgan-Senior Research Fellow, Environmental Health Trust

“In the absence of information, and in the presence of a multitude of reports of ill health, incorrect meter readings, electromagnetic interference (EMI) to other electrical equipment (and possibly EMI from other equipment to the smart meter itself), there is a serious dereliction of duty by the government of California to protect its citizens’ health and well being.

Microwave Modulation: Different Effects from Different Modulation Techniques

As a general statement, scientific studies that have examined un-modulated RF exposures [8] have rarely reported adverse health effects. But when any form of modulation is introduced, even turning the carrier frequency on and off once every 20 minutes, biologic effects are commonly found. Here is an example of how important specific modulation techniques can be. When human fibroblast cells were exposed to GSM9 modulated cellphone radiation, the REFLEX project¹⁰ found that genotoxic (DNA damage) effects began at a SAR=0.3 W/kg¹¹ [28]. However, in another REFLEX study, which exposed human fibroblast cells to UMTS¹² modulated cellphone radiation,

effects were found beginning at a SAR=0.05 W/kg [29]. In other words, a UMTS modulated signal is 6 times more efficient in causing DNA damage to human cells than is a GSM modulated signal.”

Morgan notes studies within the past 15 years yielding statistically significant results indicating positive correlations with the following health effects:

“Brain cancer, acoustic neuroma, meningioma, salivary gland tumors, eye cancer, human testicular cancer and sperm damage, leukemia, in-vivo studies: damaged sperm, in –vivo studies: blood-brain-barrier leakage., Modulation differences induced 6-fold difference in threshold of genetic damage to cells, In-vitro Studies: Genetic damage to cells including human sperm cells.”

5. Daniel Hirsch-nuclear policy expert

“When two of the most central errors are corrected – the failure to take into account duty cycles of cell phones and microwave ovens and the failure to utilize the same units (they should compare everything in terms of average whole body exposure) **the cumulative whole body exposure from a Smart Meter at 3 feet appears to be approximately two orders of magnitude higher than that of a cell phone, rather than two orders of magnitude lower.**” (his emphasis).

On February 3, 2011 the prestigious Karolinska Institutet in Sweden issued a press release entitled: **Scientists Urge Halt of Wireless Rollout and Call for New Safety Standards: Warning Issued on Risks to Children and Pregnant Women [13]**

“Scientists who study radiofrequency radiation from wireless technologies have issued a scientific statement warning that exposures may be harming the development of children at levels now commonly found in the environment. Pregnant women are cautioned to avoid using wireless devices themselves and distance themselves from other users.

The Seletun Scientific Statement has now been published in Reviews on Environmental Health (2010; 25: 307-317). The article recommends that lower limits be established for electromagnetic fields and wireless exposures, based on scientific studies reporting health impacts at much lower exposure levels. Many researchers now believe the existing safety limits are inadequate to protect public health because they do not consider prolonged exposure to lower emission levels that are now widespread.

Current US and ICNIRP standards for radiofrequency and microwave radiation from wireless technologies are entirely inadequate. They never were intended to address the kind of exposures from wireless devices that now affect over 4 billion people. We are already seeing increases in health problems such as cancer and neurobehavioural impairments, even though these wireless technologies are fairly new in the last decades or so for the general public. This finding suggests that the exposures are already too high to protect people from health harm. Safety standards also ignore the developing fetus, and young children who are more affected. Pregnant women and children of all ages should avoid using cell and cordless phones given the health effects we are seeing already.

Many countries are promoting wireless communications on a community-wide scale for energy management and conservation. The SmartGrid concept could require every home to have a wireless electric and gas meter in place of their existing meters. If implemented, it will greatly increase the intensity of new wireless emissions in homes, schools and every other building that uses electricity and gas.

The Scientific Panel urges a halt to the rollout of new wireless technologies, especially those that cause exposures for pregnant women and for children. New, biologically-based exposure limits are crucial to guide new technology development toward solutions that are not harmful to health. The global rollout of wireless technologies has outpaced both health studies and calls for more restrictive public safety limits.”[14]

In the full **Selentun Scientific Statement**, two recommendations include:

1. *“The Panel recommends against the use of cordless phones (DECT phones) and other wireless devices, toys and baby monitors, wireless internet, wireless security systems, and wireless power transmitters in SmartGrid-type connections that may produce unnecessary and potentially harmful EMF exposures.*

2. *The Panel strongly discourages the technology that allows one mobile (cell) phone to act as a repeater for other phones within the general area. This can increase exposures to EMF that are unknown to the person whose phone is —piggy-backed upon without their knowledge or permission.”* (Substitute smart meters for mobile phones in this statement and the same thing applies). [15]

Less than 2 weeks after the PUC’s First Order in this matter, The International Agency for Cancer Research/World Health Organization (IARC/WHO) on May 31, 2011 issued a press release announcing it had classified radiofrequency electromagnetic fields as **possibly carcinogenic to humans (Group 2B)**, (emphasis added) based on an increased risk for glioma, a malignant type of brain cancer, associated with wireless phone use. [16] While the release and initial report [17], published in The Lancet Oncology (online June 22, 2011) mentioned cell phones, findings were not limited to phones and, in fact, covered occupational exposures to radar and microwaves; environmental exposures associated with transmission of signals for radio, television and wireless telecommunication; and personal exposures associated with the use of wireless telephones. The new WHO report was not available to the Maine CDC at the time the CDC made its findings known to the Commission.

Other items on the 2B list include: DDT, benzofuran, chlordane, chloroform, 4,4'-Diaminodiphenyl ether, diesel fuel, 2,6-Dinitrotoluene, gasoline, lead, Polybrominated biphenyls, styrene, Toluene diisocyanates, and 4-Vinylcyclohexene. [18]

It’s important to remember how conservative WHO is with their IARC listings and of course that these listings only deal with cancer, not other adverse health effects. Consider the following toxic substances of the many classified as Category 3 (less carcinogenic than 2B): Aldicarb (active ingredient in the pesticide Temik), Aldrin, Bisphenol A diglycidyl ether (BPA), coal dust, Dieldrin, Malathion, mercury, sulfur dioxide and toluene. [19]

It’s highly unlikely the Board of Pesticide Control or the DEP would endorse unprotected and unrestricted exposures to virtually any of these substances and yet the PUC has decided consumers must actually pay to avoid exposures to an invisible substance in the same or worse categories as those above. When safety, justice and reasonableness are all primary aspects of the PUC mission and yet the Commissioners order consumers pay to avoid the risks described above, the Orders strain any reasonable definition of credulity and beg the question, does the PUC represent the utilities industry or Maine Citizens?

In California, as of June 23, 2011, the County of Santa Cruz, as well as the Cities of Capitola and Watsonville, have adopted urgency ordinances prohibiting the installation of wireless “smart” meters within their jurisdictions. Forty-three local governments throughout the state have formally demanded a halt to the program because of concerns about health, privacy, accuracy, and fire safety. [20]

Connecticut’s Attorney General George Jepson rallied against the costs of his state’s smart grid after a pilot project showed no energy savings at all and a cost to ratepayers of at least \$500 million. If the PUC went ahead he cautioned the deployment be “surgical” and only provide installations to those customers requesting (Opt In?) and able to pay for them. [21] Similar results have been reported all over the country [22] including Bath, ME.

CMP has joined an industry denying mounting evidence RF radiation damages DNA strands. As reported by CBC News, insurers are starting to refuse cell phone companies liability coverage for health problems from non-ionizing radiation. [23] And in another CBC interview on MoxNews it’s noted cell phone manufacturers are using tactics from the tobacco industry to hide the truth while Dr. Devra Davis (former Director of the world’s first Center for Environmental Oncology at the University of Pittsburgh Cancer Institute and Professor of Epidemiology at the University of Pittsburgh’s Graduate School of Public Health) calls cell phone RF radiation issues the “most important public health threat of our generation.” [24]

As described in the **Sage Report**: *“Safety standards for peak exposure limits to radiofrequency have not been developed to take into account the particular sensitivity of the eyes, testes and other ball shaped organs. There are no peak power limits defined for the eyes and testes, and it is not unreasonable to imagine situations where either of these organs comes into close contact with smart meters and/or collector meters, particularly where they are installed in multiples (on walls of multi-family dwellings that are accessible as common areas).”*

In summary, no positive assertion of safety can be made by the FCC, nor relied upon by the CPUC, with respect to pulsed RF when exposures are chronic and occur in the general population. Indiscriminate exposure to environmentally ubiquitous pulsed RF from the rollout of millions of new RF sources (smart meters) will mean far greater general population exposures, and potential health consequences. Uncertainties about the existing RF environment (how much RF exposure already exists), what kind of interior reflective environments exist (reflection factor), how interior space is utilized near walls), and other characteristics of residents (age, medical condition, medical implants, relative health, reliance on critical care equipment that may be subject to electronic interference, etc) and unrestrained access to areas of property where meter is located all argue for caution.” [25]

In May, 2011, the Council of Europe’s Parliamentary Assembly released its report: **The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment**. Amongst the conclusions:

“63. The potentially harmful effects of electromagnetic fields on the environment and human health have not yet been fully elucidated and a number of scientific uncertainties continue to exist in that regard. Nevertheless, anxieties and fears remain in wide sectors of the population over the health hazards posed by the waves, and also of the demands voiced by high-level scientists, by groupings of doctors and by the associations of concerned citizens which abound in many Council of Europe member states.

64. The precautionary principle and the right to a healthy environment, particularly on behalf of children and future generations, must be key factors in all economic, technological and social

development of society. In that regard, the Parliamentary Assembly has decided on several previous occasions (see Recommendation 1863 (2009) on environment and health: better prevention of environment-related health hazards and Recommendation 1959 (2011) on preventive health care policies in the Council of Europe member states) that coherent, effective preventive measures must be taken to protect the environment and human health.

65. *After analyzing the scientific studies available to date, and also following the hearings for expert opinions organized in the context of the Committee on the Environment, Agriculture and Local and Regional Affairs, there is sufficient evidence of potentially harmful effects of electromagnetic fields on fauna, flora and human health to react and to guard against potentially serious environmental and health hazards.” [26]*

In the PUC’s Order (Part II) on this subject, the Commission, in avoiding a decision or the use of a virtually unlimited number of experts it could employ for help in fact-finding, states in III. A.: *“In initiating the Opt-Out Investigation, the Commission specifically stated that it is making no determination on the merits of health, safety, privacy or security concerns with respect to wireless smart meters.”* Yet in its decision, the Commission not only abdicates its responsibility but consistently dismisses concerns Complainants have in all these areas. In ordering a pay-to-opt out scheme, the Commission has, in fact, decided concerns with health, safety, privacy and/or security, should be given less weight than a utility’s desire to use Mainers as a test bed for new and questionable technology. The Commission does this despite proffering no evidence or studies concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure.

Penalizing the class of citizens having concerns regarding this technology is discriminatory. An unbiased and transparent approach, in contrast, would provide ratepayers all of the information on both sides of the issue (not as in the one-sided communication plan) and let them choose. In (almost) true fairness if the program went ahead despite evidence to the contrary regarding health hazards, the smart meter plan would be an opt-in. In a program of true fairness, citizens would not be exposed to “second-hand” RF as is often the case in densely populated areas where in particular, those with electro sensitivities can actually be forced from their homes by neighborhood smart meter RF. The Commission’s decision to order opt out fees is particularly punitive when not supported substantially by evidence smart meters are safe

Privacy and Electronic Trespass

The Commission erroneously attempts to sidestep privacy and electronic trespass issues by offering a pay-to-opt out option yet, by default, builds a bias into the program in its discriminatory action against those with legitimate privacy and trespass concerns. Concerns raised by Complainants Wilkins and Foley-Ferguson have been responded to, by CMP, with the comment *“should be dismissed as without merit.”* [Order Part II]. As with its response to health concerns, we believe the Commission erred in not giving due deference to privacy/trespass issues supported by a sizable weight of evidence.

As the National Institute of Standards and Technology acknowledges, *“the major benefit provided by Smart Grid, i.e. the ability to get richer data to and from customer meters and other electronic devices, is also its Achilles’ heel from a privacy viewpoint.”* [27]

The 4th amendment to the U.S. Constitution is quite clear: *“The right of the people to be secure in*

their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." [28] While it is CMP who is electronically entering the home (also in excess of their terms and conditions of service- thus trespassing), they are acting as an agent of the government (the PUC or State) who has decided to endorse, promote, solicit and award bids to implement the smart meter program as part of a smart grid. The act of smart meters gathering or attempting to (whether obtained or not) information inside the home without a warrant is a clear transgression of the 4th amendment by the PUC/State and trespass by CMP. The only way around this (aside from probable cause and a warrant) can be with complete disclosure and transparency on what information meters will gather, what precautions will be taken with it, how those data will be used and with full permission of the homeowner. Such full disclosure must be inclusive of possible adverse health effects because, if one is harmed in the course of information gathering, that too would constitute "unreasonable", as in "unreasonable search and seizure." If one is forced to pay, to avoid this information gathering, it is extortion plain and simple. Justice Scalia wrote in *Kyllo v. United States*: "*The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy.*"[28] Perhaps, cynically, it's hard to imagine CMP would have any desire to engage in the smart meter project unless there was plenty of money to be made: from DOE grants, layoffs of meter readers and, most importantly, data mining of ratepayer information.

The Commissioners might be tempted to downplay the reach of smart meters (in terms of health effects and) in their role of information gathering because we are, in fact, surrounded by electronic devices that already do so. The key difference is CHOICE. At this point in time at least, casting possible "second-hand radiation effects" aside, we have choices to carry and use radiation emitting devices or not (cell phones, baby monitors, etc.) and a CHOICE of whether we want to transmit personal data over our computer or not. Even in the case of computer cookies, while we could in general opt out by not visiting a web site, or by erasing cookies from our hard drives; some companies have tried to change this and found legal pushback. Quite recently (June, 2011) federal judge George Wu in California approved a settlement in a major "Flash cookies" lawsuit (actually several class action suits consolidated), which alleged that use of the data technology in online advertising violates the privacy rights of millions of internet users every day. [30]

Quantcast and Clearspring, the two major internet marketers named in the suit, have agreed to pay \$2.5 million to settle the claims, \$2 million of which is being distributed to universities and research groups analyzing online privacy issues. Once it came to light that Flash cookies override a computer user's decision to delete traditional HTTP cookies and related personal information, privacy lawsuits were filed in droves. [31]

Paul Lanois in his article Caught in the Clouds: The Web 2.0, Cloud Computing, and Privacy? Published in the November 2011 issue of the Northwestern Journal of Technology and Intellectual Property discusses these issues at length noting at ¶9 "In addition, the monitoring of users' behavior has become increasingly sophisticated. Privacy-conscious consumers previously could usually delete or prevent the installation of cookie files through their Internet browser settings."⁴⁷ However, the tracking technology used "is getting smarter and more intrusive" with the use of "new tools that scan in real time what people are doing on a web page, then instantly assess location, income, shopping interests, and even medical conditions."⁴⁸ The study concluded, "One of the fastest growing businesses on the Internet is the business of spying on American consumers and tracking information."⁴⁹ And at ¶10 "Because of such practices, there has been a push for the government to step in to regulate the Internet and promote greater consumer privacy."⁵⁰ [32] One could say the same thing regarding a smart meter system as is said here about the internet only one has a no-penalty opt out of cloud computing

and internet browsing with cookie exposure. Complainants incorporate not only Lanois, but his references as well.

The Electronic Privacy Information Center has this to say: *"Privacy implications for smart grid technology deployment centers on the collection, retention, sharing, or reuse of electricity consumption information on individuals, homes, or offices. Fundamentally, smart grid systems will be multi-directional communications and energy transfer networks that enable electricity service providers, consumers, or third party energy management assistance programs to access consumption data. Further, if plans for national or transnational electric utility smart grid systems proceed as currently proposed these far reaching networks will enable data collection and sharing across platforms and great distances.*

A list of potential privacy consequences of Smart Grid systems include:

- 1. Identity Theft*
- 2. Determine Personal Behavior Patterns*
- 3. Determine Specific Appliances Used*
- 4. Perform Real-Time Surveillance*
- 5. Reveal Activities Through Residual Data*
- 6. Targeted Home Invasions (latch key children, elderly, etc.)*
- 7. Provide Accidental Invasions*
- 8. Activity Censorship*
- 9. Decisions and Actions Based Upon Inaccurate Data*
- 10. Profiling*
- 11. Unwanted Publicity and Embarrassment*
- 12. Tracking Behavior Of Renters/Leasers*
- 13. Behavior Tracking (possible combination with Personal Behavior Patterns)*
- 14. Public Aggregated Searches Revealing Individual Behavior*

Plans are underway to support smart grid system applications that will monitor any device transmitting a signal, which may include non-energy-consuming end use items that are only fitted with small radio frequency identification devices (RFID) tags may be possible. RFID tags are included in most retail purchases for clothing, household items, packaging for food, and retail items." [33]

And they conclude in part:

"Public electric utility companies are installing new meter technology and offering smart meters to monitor customer consumption of electricity. Some utilities are offering lower utility rates in exchange for customers agreeing to the installation of smart meters. What might not be well known is the capacity of these new data collection systems to monitor electric utility use within a home or office space. This can include consumption of new appliances fitted with technology that would allow the monitoring of their use inside homes and businesses. The move from an Internet of people to the "Internet of things" means that many appliances would come with unique Internet protocol addresses and wireless communication applications. How these devices might be used to collect information on their use, and who would have access to that information, and for what purpose is still unknown. The key to privacy protection is to have the user maintain control over the collection, use, reuse, and sharing of personal information including their use of electricity." [34]

Even appliance manufacturers share this last point probably understanding they are less likely to sell as many new appliances if consumers see them as being too invasive. The Association of Home Appliance Manufacturers in their December 2009 white paper on the smart grid [35] state at 14: *"The*

boundary of the utility's reach should end at the smart meter. Communication or interaction inside the home should be under the control of the consumer. Ideally, the smart meter should appear to the residence as a one-way, read-only device to provide pricing, usage, and requests for load reduction."

And at 15: "The architectural design of having the utility exchange multiple messages and acknowledgements with a single device is the current practice with some smart meter pilot projects. The problem is that the practice does not scale into the future where many appliances and devices will be participating as a networked home following the preferences and procedures determined and controlled by the consumer.

*In some Smart Grid use cases and scenarios, there is the notion of an emergency command from the utility to stop an appliance mid-cycle that cannot be overridden by the consumer. AHAM believes the implementation of this functionality is not acceptable. Utilities have no expertise in controlling appliances in a home. While appliances are manufactured to ensure basic safety and functionality while in use, consumers should always be able to override a remote signal to the appliance. Appliances are an essential part of the development of a Smart Grid and **eliminating any concerns of invasions of privacy should be a primary objective to increase household participation and involvement.***

An interruption and subsequent resumption of operation by a utility directed by someone in a remote location with no expertise and for which the product has not been designed and tested might subject the consumer to unexpected risks and consequences, especially in products that have heating elements and motors. Standards development organizations must incorporate these safety expectations into all use case and requirements discussions related to consumer-based products. The consumer and/or appliance must always retain control and management of itself. The simplest and most straightforward way for the utility to verify that its message was received and the load was reduced is to read the meter."

Finally at 16 the manufacturers express the criticality of doing what it takes to remove any possibility invasion of privacy: "Additionally, many consumers have growing concerns over the amount of data collected about their lives and for what reasons that information may be used. Intensive monitoring and registration of appliances and devices within the home can lead to data collection that allows for behavioral patterning and other data mining to be completed on individuals and groups of consumers. Regardless of the intent, this perception can cause concern from members of the population about the perceived invasion to their privacy and create an unnecessary hurdle to people becoming excited about participating in the Smart Grid. These concerns should be put to rest. It is important that the management of energy consumption and device profiles remain within the realm of the home and be invisible to the utilities in order to prevent such data mining, unless the consumer specifically allows it. Furthermore, it is critical that significant privacy policies and violation penalties be in place for Smart Grid programs to ensure protection of the user and their privacy and protect against use and collecting of data without consumer approval.

AHAM is also concerned that the smart meter pilot projects of today, which in many cases allow utilities to receive information about how a consumer uses their appliances, will result in the default course for the future. This would severely limit the Smart Grid's effectiveness and wide-spread participation, because today's pilots may not comply with Smart Grid standards that are currently under development and ensure consumer privacy. A more flexible, scalable, and consumer-centric approach is required to achieve the Smart Grid Vision."

Comments from the Electronic Privacy Information Center and a host of coordinating organizations regarding the Draft NIST Interagency Report on Smart Grid Cyber Security note:

"Because Smart Grid technology can gather detailed information about individual and family activities at home, privacy is a crucial concern: law enforcement today uses utility records, and the expected increase in amount and detail of information available through utilities with the Smart Grid will fuel demand for data about home activities that should only be available to government with a warrant. Privacy of the home can only be adequately protected in the Smart Grid if it is analyzed together with Smart Grid policy and architecture. Clear standards are needed as to what information (and how much and how detailed) is transmitted or available to utilities. System architecture (e.g. centralization vs. decentralization, network nodal structure) may permit significant minimization of data and detail; if homes and neighborhoods have significant computing capacity in local devices and networks, much monitoring, calculation and analysis of energy usage can be done locally, obviating utility data collection in the first place." (In other words, a watt meter in the home could provide the same energy usage information) Parenthesis added [36]

Elias Leake Quinn, on page 3 of his 2009 presentation *Smart Metering & Privacy: Existing Law and Competing Policies*, presents a very detailed graph showing how smart meters can profile consumers through the monitoring of appliance usage. [37] This graph is cited in NISTIR 7628, Guidelines for Smart Grid Cyber Security: Vol. 2, Privacy and the Smart Grid as Figure 5-1: Power Usage to Personal Activity Mapping.[38] Just below the graph at 13 the NIST report states: *"However, such detailed information about appliance use can also reveal whether a building is occupied or vacant, show residency patterns over time, and reflect intimate details of people's lives and their habits and preferences inside"* Complainants incorporate by reference all three NISTIR 7628 volumes.[39]

According to the National Institute of Standards and Technology (NIST):

"The Smart Grid will greatly expand the amount of data that can be monitored, collected, aggregated, and analyzed. This expanded information, particularly from energy consumers and other individuals, raises added privacy concerns. For example, specific appliances and generators can be identified from the signatures they exhibit in electric information at the meter when collections occur with great frequency as opposed to through traditional monthly meter readings. This more detailed information expands the possibility of intruding on consumers' and other individuals' privacy expectations."

The research behind the material presented in this chapter focused on privacy within personal dwellings and electric vehicles and did not address business premises and the privacy of individuals within such premises. The researchers' conclusions based upon work in these primary areas are as follows:

- 1. Evolving Smart Grid technologies and associated new types of information related to individuals, groups of individuals, and their behavior within their premises and electric vehicles introduce privacy risks and challenges that have not been tested and may or may not be mitigated by existing laws and regulations.*
- 2. New Smart Grid technologies, and particularly smart meters, smart appliances, and similar types of endpoints, create new privacy risks and concerns that may not be addressed adequately by the existing business policies and practices of utilities and third-party Smart Grid providers.*
- 3. Utilities and third-party Smart Grid providers need to follow standard privacy and information security practices to effectively and consistently safeguard the privacy of personal information.*

4. Most consumers probably do not understand their privacy exposures or their options for mitigating those exposures within the Smart Grid. [40]

Based on initial research and the details of the associated findings, a summary listing of all recommendations includes the following points for entities that participate within the Smart Grid:

1. Conduct pre-installation processes and activities for using Smart Grid technologies with utmost transparency.
2. Conduct an initial privacy impact assessment before making the decision to deploy and/or participate in the Smart Grid. Additional privacy impact assessments should be conducted following significant organizational, systems, applications, or legal changes—and particularly, following privacy breaches and information security incidents involving personal information, as an alternative, or in addition, to an independent audit.
3. Develop and document privacy policies and practices that are drawn from the full set of Organisation for Economic Cooperation and Development (OECD) Privacy Principles and other authorities (see 5.4.1 “Consumer-to-Utility PIA Basis and Methodology”). This should include appointing personnel responsible for ensuring privacy policies and protections are implemented.
4. Provide regular privacy training and ongoing awareness communications and activities to all workers who have access to personal information within the Smart Grid.
5. Develop privacy use cases that track data flows containing personal information to address and mitigate common privacy risks that exist for business processes within the Smart Grid.
6. Educate consumers and other individuals about the privacy risks within the Smart Grid and what they can do to mitigate them.
7. Share information with other Smart Grid market participants concerning solutions to common privacy-related risks. [41]

Additionally, manufacturers and vendors of smart meters, smart appliances, and other types of smart devices, should engineer these devices to collect only the data necessary for the purposes of the smart device operations. The defaults for the collected data should be established to use and share the data only as necessary to allow the device to function as advertised and for the purpose(s) agreed to by Smart Grid consumers.

There is also the possibility of utilities possessing new types of data as a result of the Smart Grid for which they have not to date been custodians. These new types of data may be protected by regulations from other industries that utilities did not previously have to follow. As is revealed by the privacy impact assessment that is the subject of section 5.4 of this chapter, there is a lack of privacy laws or policies directly applicable to the Smart Grid. Privacy subgroup research indicates that, in general, state utility commissions currently lack formal privacy policies or standards related to the Smart Grid. Comprehensive and consistent definitions of privacy-affecting information with respect to the Smart Grid typically do not exist at state or federal regulatory levels, or within the utility industry.

However, the Supreme Court in *Kyllo* clearly reaffirmed the heightened Fourth Amendment privacy interest in the home and noted this interest is not outweighed by technology that allows government agents to “see” into the suspect’s home without actually entering the premises. The Court stated, “We think that obtaining by sense-enhancing technology any information regarding the interior of the home that could not

otherwise have been obtained without physical intrusion into a constitutionally protected area, constitutes a search and is presumptively unreasonable without a warrant." (emphasis added)

Second, unlike the traditional energy grid, the Smart Grid may be viewed as carrying private and/or confidential electronic communications between utilities and end-users, possibly between utilities and third parties, and between end-users and third parties. Current law both protects private electronic communications and permits government access to real-time and stored communications, as well as communications transactional records, using a variety of legal processes. Moreover, under the Communications Assistance for Law Enforcement Act (CALEA), telecommunications carriers and equipment manufacturers are required to design their systems to enable lawful access to communications. The granular Smart Grid data may also have parallels to call detail records collected by telecommunications providers. It is unclear if laws that regulate government access to communications will also apply to the Smart Grid.

In short, the innovative technologies of the Smart Grid pose new legal issues for privacy of the home, as well as any type of property location that has traditionally received strong Fourth Amendment protection. As Justice Scalia wrote in *Kyllo*: "The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy." [42]

NIST concludes in part:

"5.8 SMART GRID PRIVACY SUMMARY AND RECOMMENDATIONS

5.8.1 Summary

Based upon the work and research done over the past year, the privacy subgroup reached the following conclusions:

1. The evolving Smart Grid technologies and associated new types of information related to individuals, groups of individuals, and premises may create privacy risks and challenges that are not fully addressed or mitigated by existing laws and regulations with regard to energy consumption, energy generation, billing, third-party Smart Grid applications data, and other related Smart Grid data.
2. New Smart Grid technologies, particularly smart meters, smart appliances, and similar types of endpoints, may create new privacy risks and concerns that may not be addressed adequately by the existing business policies and practices of utilities and third-party Smart Grid providers.
3. Utilities and third-party Smart Grid providers need to follow recognized privacy practices in a consistent and comprehensive fashion to effectively safeguard Smart Grid personal information and consumer privacy. Existing policies should be evaluated and revised, as required.

5.8.2 Recommendations

Choice and Consent. An organization should clearly, fully, and accurately describe the choices available to individuals, and to the extent practicable, obtain explicit approval for the collection and use of their personal information. Consumers should have the option to forgo data collection and services that are not related to the core services provided by the organization. (While to some customers receiving a communications brochure- choices are explained, implications are not. The core of CMP's service is transmission of energy and billing for such-that's it.)

Collection and Scope. Only personal information that is required to fulfill the stated purpose specified under the Notice and Purpose principle should be collected. Treatment of the information should conform to these privacy principles.” [43]

CMP's rights are limited essentially to providing, accessing and servicing their meters. Their terms and conditions of service state the following:

“215. ACCESS TO PREMISES

The Company shall have the right of access, by the Company's standard vehicles and equipment, to a customer's premises and to all property furnished by the Company installed therein at all reasonable times during which service is furnished the customer, and on or after its termination, for the purpose reading meters, or inspection and repair of devices used in connection with its service, or removing its property, or for any other proper purpose.” [44]

Foley-Ferguson et al. in their May 16, 2011 **Letter to the Commissioners Urging No Cost Opt Outs** [which is not addressed in either Part I or Part II of the Order] speaks to this issue:

“1. Rights of CMP Easement

According to the law, CMP has the right to enter the property of any individual to read and to maintain its meter to provide electricity to the (solely) person(s) who has (have) agreed to service. This is called an easement. Electric meters remain the property of CMP. There is nothing, however, in CMP's easement that legitimizes the installation of a sending and receiving antenna that transmits other people's data without the express consent of the owner to transmit data other than their own. CMP has no rights to use a person's residence for business purposes other than providing electric service to the owner as agreed. Other easement violations include allowing RF into homes, and collecting data without express permission of owner”.

These and other claims to implied or expanded rights are also addressed in the Wilkins Complaint:

“CMP will tell you that they have a contractual right of way to your electric meter box and that is true but that right of way ends at the meter box. Their right of way does not extend into the interior of our homes. We did not agree to let them use the interior of our homes and bodies when we signed up with them for electric service. We just agreed to let them bring the electricity to the electric box; and from that point our house wiring uses that electricity and we pay for it.

CMP's new meters send radiofrequency radiation into the interior of our homes to collect not only our usage data but also to transmit all of our neighbor's data. CMP has estimated that your smart meter could SEND up to 15,400 Radiofrequency transmissions per day. This means not only will your smart meter be sending RF radiation 15,400 times per day but could also be receiving RF radiation from neighbors meters who are sending their data to your meter for another possible 15,400 times per day. CMP says these estimated transmissions only last a fraction of a second for each transmission but they occur all night and all day. CMP is using the interior of our homes to collect not only our data... but other peoples, without our permission... without paying us for that privilege.... and without due process of law. So not only is this against the Maine Constitution... but also the 5th and 14th Amendment... to the US Constitution which prohibits anyone from taking or using our property without compensation and due process of the law.”

Now we are sliding into trespass issues allowing for commerce wherein CMP has set up a place of business on the side of your house to move not just your information but those of others. This goes far beyond their handbook description: reading the meter. Again from the Foley-Ferguson May 16 letter:

"2. RF Mesh Holes Equal Biggest Cost-Opt outs should not pay

The possible holes in the system created by CMP's lack of ability to use an individual's home for a repeater and sender of other peoples data has been shown by CMP and PUC staff to be the highest additional AMI cost associated with opt outs. (see spreadsheet) This is because of the method by which an RF mesh system operates. According to law, the use of each individual home, however, is limited to providing that home with electricity; not to provide a facility for CMP to store and move other people's data. Thus, any cost born by customers who choose to opt out for moving other people's data is unjust, discriminatory, and unreasonable.

Individuals who opt out of the smart meter program should not pay CMP a fee because they have created holes in CMP's "business plan", or mesh. As an example, what happens when a impenetrable skyscraper is built in Portland that obstructs the "mesh" transmissions and requires CMP to install another repeater? Over the years, it is likely to happen. Does the owner of the skyscraper pay? No. It is simply a characteristic of the "mesh", that CMP will need to adjust it's locations of repeaters. Opt out customers should not pay for repeaters.

Opt outs do not create a situation where a resident's own energy usage cannot be measured. The agreement between a homeowner and CMP that is required in order to receive service says nothing about transmitting other people's energy usage".

In a 5/20/2011 email response to a question from the lead complainant in this complaint, Richard Davies, Maine Public Advocate, replied:

"The right to place a meter on your house comes from the customer applying for electric service. By applying for service you grant the utility the right to place a meter in order to measure your electric consumption. The PUC rules state that the utility determines the nature and technology of the meter it places on a customer's property. Implied in this is the right to test, service, repair or replace the meter, and the right to have access to the meter for these purposes.

There is nothing I can find in the rules regarding the issue of the operation of a meter "intruding into the building" such as in the form of RF radiation, but I expect to see the Commission address this issue when they issue Part 2 of their decisions regarding the four "smart meter" 10-person complaints they decided in mid-May. Part 1 has been issued, but deals just with the opt-outs they approved. We don't know when Part 2 will be issued. It will be filed under each of the four dockets (2010-345, 2010-389, 2010-398, and 2010-400).

This issue might be "ripe" for litigation since the technology being used by CMP involves the transmittal of a meter's data wirelessly not directly to the utility, but via a "mesh" system that uses the antennas on each meter to relay data from other meters on to a collector which then transmits it along to the utility. As Suzanne Foley-Ferguson (Docket No. 2010-398) argued, this allows CMP to use a customer's home as a place of the utility's business to serve other customers and not just the customer at that location. This, combined with the health issue, may create a legal situation that falls outside the bounds of settled law." [45]

Conclusion

We reiterate our request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to provide relief as follows: 1) Stay the installation of further smart meters, or 2) Should further installations not be stayed, order future installations to be Opt In, and 3) Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters. 4) Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices, privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent. 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. This hot line number shall be prominently displayed on CMP bills and in the communication plan. We also request the Commission establish a database where such complaints will be recorded.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. As Suzanne Foley-Ferguson writes in Friends of Merrymeeting Bay's Spring 2011 Newsletter- *Merrymeeting News*: "*Indeed, considering our bodies are essentially masses of electrically charged particles, it would be a surprise if we were not affected by RF.*" [46] The PUC does not adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

The Commission's second Order addresses cost issues to opt-out ratepayers by noting AMI smart meters are now CMP's standard meter and using past practices as an example of how to act here, if a ratepayer wants a non-standard option [underground lines for example], they should pay the incremental costs of the alternative. The fatal flaw in this logic, as stated earlier, is the options carry very different risks. Assuming you are one of the vast majority who have electricity, there really is no just and reasonable choice if you are discriminated against and penalized through additional fees for protecting yourself and your family. Knowing smart meters carry a very real or at least the strong possibility of very real risks, and still ordering CMP charge ratepayers a premium to opt out or avoid these risks, the Commissioners create, in this case, a situation not only discriminatory but unsafe, unjust and unreasonable, anathema to the PUC mission: *regulating electric, gas, telephone and water utilities to ensure that Maine citizens have access to safe and reliable utility services at rates that are just and reasonable for all ratepayers.*

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Ten-Person Complaint Pursuant to 35-A M.R.S.A. Section 1302 Regarding "Smart Meters" & "Smart Meter" Opt-Out as Promulgated by the Maine Public Utilities Commission (MPUC).

WE, the undersigned** aggrieved Complainants, are customers of Central Maine Power (CMP). While this complaint is based on proposals and actions by CMP, the complaint is directed not only at CMP for levying what, given the facts, must be an unreasonable, unjust and discriminatory fee against ratepayers choosing to opt out of the smart meter program, but also at the PUC because of its May 19 and June 22, 2011 Orders (Part I and Part II) requiring CMP customers to pay the utility, should they, the ratepayer, elect to opt out of the program.

WE request the Public Utility Commissioners open an investigation for the purpose of examining this issue since *new and important evidence specifically addressing non-ionizing radiation* of the type emitted by smart meters, has been published earlier this year and also after the May 19 Order, and was not considered in either Order (in fact its absence was cited by the Maine CDC as supporting a lack of adverse health effects). Furthermore, privacy/electronic trespass concerns have not been adequately considered in previous Orders and *new information for the Commissioners on privacy/electronic trespass issues* is also presented here. The complaint enters other electronic trespass and health evidence including privacy guidelines, which may not have been raised in earlier complaints or be a part of the record.

WE hereby request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to satisfy it including amending the previous Orders as follows:

- 1) Stay the installation of further smart meters, or
- 2) Should further installations not be stayed, order future installations to be Opt In, and
- 3) Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters.
- 4) Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices, privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent.
- 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. We also request the Commission establish a database where such complaints will be recorded. This hot line number shall be prominently displayed on CMP bills and in the communication plan.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. Neither does the PUC adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems in these areas. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

** Signature pages attached as Appendix 1

address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Dorothy Kelly
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Signature [Signature] Lead Complainant
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Signature [Signature]
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Printed Name Kathleen McGee
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Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Introduction

As the Commissioners and PUC staff should well know, smart meters, so-called, have no shortage of critics due to many proven and possible problems associated with them including:

1. Adverse health effects
2. Constitutional privacy violations
3. Interference with other wireless devices
4. Creation of fire hazards due to interference with ground fault interrupters
5. Effects on wildlife
6. Inaccurate readings-over-billing
7. Commerce issues-Electronic Trespass

address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature *Chester A. Gillis*
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Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Introduction

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address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Cynthia Atkinson
Utility Acc. # 441-157-7732-004 Telephone Number 883 4276
Printed Name Cynthia Atkinson
Address 10 Teal Pt Dr. Scarborough, Me. 04074

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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5. Effects on wildlife
6. Inaccurate readings-over-billing
7. Commerce issues-Electronic Trespass

Printed Name _____

Address _____

Signature _____

Utility Acc. # _____ Telephone Number _____

Printed Name _____

Address _____

Signature Nancy Dyer Gray 514 040-3225-001
Utility Acc. # 231 025 7890-001 Telephone Number 865-6319
231 025 7890-001 865-6319 785-2816

Printed Name Nancy Dyer Gray

Address 204 Main Street Freeport, Maine 04032 Sherman Miller & Borney Town Rd Appleton, Me

Signature 204 Main Street Freeport, Maine 04032

Utility Acc. # _____ Telephone Number _____

Printed Name Sherman Miller & Borney Town Rd

Address Appleton, Me

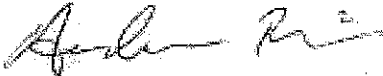
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Signature 

Utility Acc. # Telephone Number

~~5140500397002~~ (207) 666-8419 / CMP# 5140500397002

Printed Name ANDREW FIORI

Address 212 FISHER RD. BOWDOINHAM, ME. 04008

Signature 

Utility Acc. # Telephone Number

5140500397002 phone# 207-666-8419

Printed Name MELISSA M. FIORI

Address 212 Fisher Rd. Bowdoinham, Maine 04008

Signature

Utility Acc. # Telephone Number

Printed Name

Address

Signature

Utility Acc. # Telephone Number

Printed Name

Address

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Signature Julian C. Holmes
Utility Acc. # 211-0272371-012 Telephone Number 207 685 9057

Printed Name JULIAN C. HOLMES
Address 66 LORD ROAD, WAYNE, ME 04284

Signature Audrey S. Marra
Utility Acc. # 211-0272371-012 Telephone Number 207-685-7329

Printed Name AUDREY S. MARRA
Address 66 LORD ROAD, WAYNE, ME 04284

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Signature Charlotte T. Isenbary
Utility Acc. # 535004291013 Telephone Number 207-737-4730
Printed Name CHARLOTTE T. ISENBARY
Address 519 River Rd., Dresden, ME. 04342

Signature Deborah A. Burk
Utility Acc. # 535 004 2921 013 Telephone Number 207 737-4034
Printed Name Deborah A Burk
Address 530 River Rd Dresden, Me 04342

Signature Dan Burk Dan Burk
Utility Acc. # 535 004 2921 013 Telephone Number 207 737-4034
Printed Name Dan Burk
Address 530 River Rd Dresden, ME 04342

Signature Regina Stjepan
Utility Acc. # 211-012-1362-012 Telephone Number 582-4995
Printed Name Regina Stjepan
Address 1241 Wiscasset Rd. Pittsford, ME 04345

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Signature Donna Giroux
Utility Acc. # 4430-2214 86624 Telephone Number 207 809 0232
Printed Name Donna Giroux
Address 82 Ocean Ave Old Orchard Beach ME 04064

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Bryan Hardacker
Utility Acc. # 4430321480024 Telephone Number 207-809-8088
Printed Name Bryan Hardacker
Address 82 Ocean Ave, Old Orchard Beach, ME, 04064

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
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Address _____

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Utility Acc. # 05140202896 011 Telephone Number 207-725-6414
Printed Name Joe Ciarracca *redone below with signature*
Address 532 Harpswell Rd. Brunswick, ME 04011
Signature *Joe Ciarracca*

Utility Acc. # 05140202896 011 Telephone Number 207-725-6414
Printed Name Jeanne Johnson
Address 532 Harpswell Rd. Brunswick, ME 04011
Signature *Joe Ciarracca*

Utility Acc. # 05140202896 011 Telephone Number 207-725-6414
Printed Name Joe Ciarracca
Address 532 Harpswell Rd.
Signature _____

Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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Ed Friedman • 42 Stevens Rd. • Bowdoinham • ME • 04008 • 207-666-3372
edfomb@comcast.net

ELECTRONICALLY FILED ON (8/3/11)

THIS IS A VIRTUAL DUPLICATE OF THE ORIGINAL HARDCOPY SUBMITTED TO THE
COMMISSION IN ACCORDANCE WITH ITS ELECTRONIC FILING INSTRUCTIONS

August 3, 2011

Karen Geraghty
Maine Public Utility Commission
18 State House Station
Augusta, ME 04333
287-2445
karen.geraghty@maine.gov

Karen,

Please find enclosed (or attached) a new "10 Person Complaint" regarding smart meters directed at both the PUC and CMP. It is submitted by 19 Complainants, of whom I am designated as "Lead Complainant." [Original copy emailed 7/29 and USPS mailed 8/30. This copy corrected for a couple of typos, inclusive of c.c. to CMP and properly electronically filed. Hard resent to PUC and sent to CMP].

On behalf of Complainants, I am submitting this Cover Letter, 10-Person Complaint and Appendix 1-Signature Pages electronically today. The identical version in hard copy will be out in tomorrow's mail to you.

If you have any further questions, please don't hesitate to contact me.

Thank you.

Sincerely,


Ed Friedman

C.C.
Richard Davies, Public Advocate
Complainants
CMP

*This looks like the
same Filing as
the July 29th filing
just changed date
of cover letter.*

*2011-262
Mitch
Derek
Kestie
Angela
Jody
Paul*

Ten-Person Complaint Pursuant to 35-A M.R.S.A. Section 1302 Regarding “Smart Meters” & “Smart Meter” Opt-Out as Promulgated by the Maine Public Utilities Commission (MPUC) July 29, 2011

WE, the undersigned** aggrieved Complainants, are customers of Central Maine Power (CMP). While this complaint is based on proposals and actions by CMP, the complaint is directed not only at CMP for levying what, given the facts, must be an unreasonable, unjust and discriminatory fee against ratepayers choosing to opt out of the smart meter program, but also at the PUC because of its May 19 and June 22, 2011 Orders (Part I and Part II) requiring CMP customers to pay the utility, should they, the ratepayer, elect to opt out of the program.


WE request the Public Utility Commissioners open an investigation for the purpose of examining this issue since *new and important evidence specifically addressing non-ionizing radiation* of the type emitted by smart meters, has been published earlier this year and also after the May 19 Order, and was not considered in either Order (in fact its absence was cited by the Maine CDC as supporting a lack of adverse health effects). Furthermore, privacy/electronic trespass concerns have not been adequately considered in previous Orders and *new information for the Commissioners on privacy/electronic trespass issues* is also presented here. The complaint enters other electronic trespass and health evidence including privacy guidelines, which may not have been raised in earlier complaints or be a part of the record.

WE hereby request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to satisfy it including amending the previous Orders as follows:

- 1) Stay the installation of further smart meters, or
- 2) Should further installations not be stayed, order future installations to be Opt In, and
- 3) Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters.
- 4) Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices, privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent.
- 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. We also request the Commission establish a database where such complaints will be recorded. This hot line number shall be prominently displayed on CMP bills and in the communication plan.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. Neither does the PUC adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems in these areas. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

** Signature pages attached as Appendix 1

1. Signature: (LEAD PETITIONER)  _____

Utility Acc. # 211-022-0491-015 _____ Telephone Number 666-3372 _____

Printed Name: (LEAD PETITIONER): Ed Friedman _____

Address: 42 Stevens Rd., Bowdoinham, ME 04008 _____

2. Signature /s/ Kathleen McGee _____

Utility Acc. # 211-022-0467-015 _____ Telephone Number 666-3598 _____

Printed Name: Kathleen McGee _____

Address: 30 Stevens Rd., Bowdoinham, ME 04008 _____

3. & 4. Signature /s/ Donna Giroux & /s/ Bryan Hardacker _____

Utility Acc. # 443-022-1480-024 _____ Telephone Number: 809-0232 [DG], 809-8088 [BH]

Printed Name: Donna Giroux & Bryan Hardacker _____

Address: 82 Ocean Ave., Old Orchard Beach, ME 04064 _____

5. & 6. Signature: /s/ Chester Gillis & /s/ Eleanor Gillis _____

Utility Acc. # 211-022-0434-011 _____ Telephone Number: 666-3203 _____

Printed Name: Chester and Eleanor Gillis _____

Address: P.O. Box 233, Bowdoinham, ME 04008 _____

7. Signature: /s/ Charlotte T. Iserbyt _____

Utility Acc. # 535-004-2916-017 _____ Telephone Number 737-4730 _____

Printed Name: Charlotte T. Iserbyt _____

Address: 519 River Rd., Dresden, ME 04342 _____

8 & 9. Signature: /s/ Julian Holmes & /s/ Audrey Marra _____

Utility Acc. # 211-027-2371-012 _____ Telephone Number: 685-7329 _____

Printed Name: Julian Holmes & Audrey Marra _____

Address: 66 Lord Rd., Wayne, ME 04284 _____

10. Signature: /s/ Cynthia Atkinson _____

Utility Acc. # 441-157-7732-004 _____ Telephone Number 883-4276 _____

Printed Name: Cynthia Atkinson _____

Address: 10 Teal Pt. Dr. Scarborough, ME 04074 _____

11. Signature: /s/ Nancy Gray _____

Utility Acc. # 514-040-3225-001 _____ Telephone Number 865-6319 _____

Printed Name: Nancy Gray _____

Address: 204 Main St., Freeport, ME 04032 _____

12. & 13. Signature: /s/ Deborah Burk & /s/ Dan Burk _____

Utility Acc. # 535-004-2921-013 _____ Telephone Number: 737-4034 _____

Printed Name: Deborah & Dan Burk _____

Address: 530 River Rd., Dresden, ME 04342 _____

14. Signature: /s/ Dorothy Kelly _____

Utility Acc. # 514-024-8140-012. _____ Telephone Number 443-4787 _____

Printed Name: Dorothy Kelly _____

Address: 98 Pleasant Cove Rd, Phippsburg. _____

15 & 16. Signatures: /s/ Andrew & Melissa Fiori _____

Utility Acc. # 514-0500-387-002. _____ Telephone Number 666-8419 _____

Printed Name: Andrew & Melissa Fiori _____

Address: 212 Fischer Rd., Bowdoinham, Me 04008. _____

17. Signature: /s/ Regina S. Stilphen _____

Utility Acc. # 211-012-1362-012. _____ Telephone Number 582-4995 _____

Printed Name: Regina Stilphen _____

Address: 1241 Wiscasset Rd., Pittston, ME 04345. _____

18. & 19. Signature: /s/ Joe Ciarrocca & Jeanne Johnson _____

Utility Acc. # 514-020-2896-011 _____ Telephone Number 725-6414 _____

Printed Name: Joe Ciarrocca & Jeanne Johnson _____

Address: 532 Harpswell Rd., Brunswick, ME 04011 _____

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While one might think the Commission should be commended for offering an Opt Out; in reality the net result may do more harm than good as it attempts to legitimize a seriously flawed product, foist this product on an unsuspecting public, and couch what is nothing more than a text book illustration of extortion as "*associated costs of that option*". [2]

In the same press release, Commissioner Vafiades is quoted: "*Based on sound public policy, as allowed by statute and taking into consideration all public correspondence and filings, we conclude that offering a smart meter opt-out option is reasonable and in the public interest. For the long term success of smart meter implementation and to maximize its potential to the fullest, the public needs to be actively engaged in monitoring their usage and real-time price of electricity and modifying their behavior accordingly. To achieve this goal, we need to shift the focus to the benefits of smart meters and allow the small minority to opt out.*" [3]

Complainants disagree strongly that opt out options, certainly as ordered, are either reasonable or in the public interest. In fact we believe the Commission's action requiring ratepayers to pay CMP to avoid possibly harm and to avoid warrant-less information- gathering inside the home, to be the very opposite on both counts. Which is to say the Commission's order appears unreasonable, unjust, discriminatory and against the public interest. Better descriptions of the Commission's actions in somewhat descending order of severity might be "collusion with the utility", "willful negligence", irresponsible", "arbitrary and capricious", "not substantially supported by evidence-in total or in the record", "remiss" or "uninformed." Commissioner Vafiades attempts to justify smart meters and a smart grid implying this will enable ratepayer to be "*actively engaged in monitoring their usage and real-time price of electricity and modifying their behavior accordingly.*" This rationalization falls flat on its face because right now any ratepayer could purchase, or CMP could supply if they truly cared, a simple watt meter (Kill-A-Watt is a popular brand) enabling real-time monitoring of appliance power use. This meter, at about \$20 retail, is an immediate and effective way for ratepayers to measure and monitor power usage and to upgrade appliances or conserve wherever may be most cost-effective.

The Commission has a mission, one which the Commissioners should be legally bound to execute. As stated on the Commission's web page:

The Maine Public Utilities Commission regulates electric, gas, telephone and water utilities to ensure that Maine citizens have access to safe and reliable utility services at rates that are just and reasonable for all ratepayers. [4]

First and foremost is the adjective "safe." While the Commissioners may be more used to thinking in terms of pipeline or powerline safety (i.e. gas leaks or electrical discharges), there is nothing in the PUC mission limiting the word safety to mechanical issues. As defined at Dictionary.com, "safe" means: 1. secure from liability to harm, injury, danger, or risk 2. free from hurt, injury, danger, or risk 3. involving little or no risk of mishap, error, etc. There is no exclusion for the avoidance of adverse health effects both to humans and wildlife. A pipeline is, for example, built, approved and operated to avoid accidents which could injure people or harm the environment. If such a project was allowed to proceed knowing serious problems existed and had not been corrected, this could lead to serious legal charges. If the true facts were concealed, the charges would, of course, be criminal.

Where the law is concerned, neither ignorance nor abdication of responsibility are excusable. The PUC declared they would make no determination on the merits of health, safety, privacy or security concerns with respect to wireless smart meters. This is, at best, disingenuous considering their mission and the implied assurance that, as an entity, it is their responsibility to assure protection of citizens, not profit to industry or the "hope" for some future benefit that is not at all clear in the factual record.

The Hobbs Act defines "extortion" as "the obtaining of property from another, with his consent, induced by wrongful use of actual or threatened force, violence, or fear, or under color of official right." [5] Thus when the PUC or CMP essentially say through their actions, if the ratepayer doesn't want to be fearful of or risk possibly harmful radiation effects, or doesn't want to be fearful of CMP collecting data (personal property) (to sell or not) about them from within their own homes, then they must pay the utility what is essentially "protection money" to keep their old meter and avoid these sanctioned (under color of official right) risks or threats. If citizens opt out and don't pay, that of course opens up another set of possible consequences for them.

Assuming you are one of the vast majority who have electricity, there really is no fair choice if you are discriminated against and penalized through supplementary fees. Smart meters carry very real, or at very least, the strong threat of very real risks to customers. Knowing this and still ordering CMP charge ratepayers a premium to opt out, the Commissioners create, in this case, a situation unsafe, unjust, discriminatory and unreasonable; anathema to their mission. In the consumer's best interest or not, the Commission endorses smart meters. If the Commission wants, despite the ever-increasing evidence against smart meters, to encourage their use, they should allow or require CMP to provide incentives for those customers who wish to switch, not impose penalties on those customers wishing to ensure their own safety, privacy and reasonable rates.

A Review of Health Effects and Introduction of New Evidence

Research into health effects of low level electromagnetic and RF radiation has been going on over seventy years. In 1971, the Navy Medical Research Institute published a bibliography of over 2,000 studies finding biological health effects from microwave and RF radiation going back to the 1930s. [6] Effects were broken down into the following broad categories, noting as well for each, the number of sub categories (in parentheses) also described and distinguished:

1. Heating of organs (8)
2. Changes in physiologic function (29)
3. Central nervous system effects (9)
4. Autonomic nervous system effects (4)
5. Peripheral nervous system effects (1)
6. Psychological disorders-Human behavioral studies (17)
7. Behavioral Changes-Animal studies (1)
8. Blood disorders (12)
9. Vascular disorders (2)
10. Enzyme and other biochemical changes (13)
11. Metabolic disorders (4)
12. Gastro-intestinal disorders (4)
13. Histological changes (2)
14. Genetic and chromosomal changes (5)
15. Pearl chain effect and orientation of cellular and other particles (1)
16. Miscellaneous effects (10)

It is precisely because of this large spectrum of effects, the military is creating weapons using RF/microwave frequencies. [7]

More recently, the UK group Powerwatch reviewed approximately 1300 EMF/RF studies from the past 20 years organizing the studies into 3 categories: finding effects from exposure or radiation, finding no effects from exposure or radiation or offering important insights but offering neither positive or null findings. As they note:

"When it comes to EMF issues, one of the most frequently heard phrases is: "There is no evidence to support EMFs having health effects" or simply "There is no conclusive evidence."

"We believe that this is completely wrong; there is an enormous body of evidence out there, but public and even academic awareness seems to be very poor. Therefore, we will be presenting a list of papers which either show serious effects or are considered important papers on the subject which we have collected over the years."[8]

In 2007, the BioInitiative Working Group, an international collaboration of prestigious scientists and public health experts from Columbia University and the University at Albany (New York), University of Washington (Seattle), the Karolinska Institute, Umea University and Orebro University Hospital (Sweden), the European Environmental Agency (Denmark) Medical University of Vienna (Austria) and Zhejiang University School of Medicine, (China) released a 650-page report citing more than 2000 studies documenting health effects of EMFs and RF from all sources (pre-smart meters). Chapter titles include:

1. The Existing Public Exposure Standards
2. Evidence for Inadequacy of the Standards
3. Evidence for Effects on Gene and Protein Expression (Transcriptomic and Proteomic Research)
4. Evidence for Genotoxic Effects – RFR and ELF DNA Damage
5. Evidence for Stress Response (Stress Proteins)
6. Evidence for Effects on Immune Function
7. Evidence for Effects on Neurology and Behavior
8. Evidence for Brain Tumors and Acoustic Neuromas
9. Evidence for Childhood Cancers (Leukemia)

10. Magnetic Field Exposure: Melatonin Production; Alzheimer's Disease; Breast Cancer
 11. Evidence for Breast Cancer Promotion (Melatonin links in laboratory and cell studies)
 12. Evidence for Disruption by the Modulating Signal
 13. Evidence Based on EMF Medical Therapeutics
 14. Key Scientific Evidence and Public Health Policy Recommendations
 15. APPENDIX - Ambient ELF and RF levels
- Average residential and occupational exposures

A key finding from the report states: *"Not everything is known yet about this subject; but what is clear is that the existing public safety standards limiting these radiation levels in nearly every country of the world look to be thousands of times too lenient. Changes are needed."*[9]

In the 2008-2010 President's Panel on Cancer Annual Report: Reducing Environmental Cancer Risk: What We Can Do Now, authors observe many of the uncertainties regarding effects from EMFs and RF radiation but nevertheless counsel a precautionary approach: *"Until these questions are answered with some degree of confidence, cell phone users can reduce their exposure to radiofrequency energy by making fewer calls, reducing the length of calls, sending text messages instead of calling, using cell phones only when landline phones are unavailable, using a wired "hands-free" device so that the phone need not be held against the head, and refraining from keeping an active phone clipped to the belt or in a pocket."*[10]

The California Council on Science and Technology released their report Health Impacts of Radio Frequency from Smart Meters in January 2011 [11]. The report was met with a flood of critical comment based on problems with its methods, research, total quality and conclusions. Our complaint incorporates by reference the individual comments on the study as made available on the CCST website [12]. Of particular note are comments from:

1. Karl Maret, MD, BS Electrical Engineering, a MS Biomedical Engineering, four year post-doctoral fellowship in physiology:

"The CCST report further states that, "Without a clearer understanding of the biological mechanisms involved, identifying additional standards or evaluating the relative costs and benefits of those standards cannot be determined at this time." I strongly disagree with this conclusion as there is now a large body of scientific literature describing several key mechanisms for the action of weak electromagnetic fields. These include, among others:

Removal of calcium ions bound to cellular membranes, leading to their weakened structure and changed cellular functioning

Change of calcium ion leading to changes in metabolic processes in cells,

The leakage of calcium ions into neurons generating spurious action potentials,

Fragmentation of DNA in cells seen through the Comet assay

Changes in the blood-brain barrier in animals after microwave exposure

Defined cellular stress response, including the production of heat shock proteins (HSP), that are triggered electromagnetically at non-thermal levels that require much less energy than when triggered by heat (so-called thermal considerations)

Activation of specific genes by exposure to non-thermal electromagnetic fields leading to gene transcription to form RNA, the first stage in the synthesis of proteins

All these biological effects are well substantiated in the scientific literature and occurred at much lower exposure levels than current FCC standards, but are minimized by the CCST report.” (Dr. Karl Maret has also given one of the very best presentations on the science of smart meters. This presentation was broadcast September 15, 2010 by Santa Cruz County Community Television as part of their program “The Truth About Smart Meters” and can be viewed online at: <http://www.communitytv.org/programs/online/truth-about-smart-meters>. Maret’s portion of the program begins at :22 minutes and ends at 1:26. Our complaint incorporates this program by reference.)

2. David O. Carpenter MD -University at Albany, State University of New York Institute for Health and the Environment and Department of Environmental Health Sciences School of Public Health (former Dean):

“The statement “*The scientific consensus is that body temperatures must increase at least 1°C to lead to potential biological impacts from the heat*” is totally wrong, and makes it obvious that no persons with medical or biological expertise participated in this report. Every enzyme system in the body is exquisitely sensitive to temperature, and increases activity by even a fraction of a degree increase in temperature. In fact all RF generates heat, and what is defined as “non-thermal” is only a function of our ability to measure the temperature increase.”

3. Magda Havas, BS, PhD

“I work with people who have become **electrically hypersensitive (EHS)** and I have received emails and phone calls from those who have had smart meters placed on their homes. They complain of ill health and many are unable to use the room closest to the smart meter. These individuals have no place to “hide” from the growing levels of electrosmog especially in densely populated urban centers. Sickness contributes to time off work and away from school, growing medical costs and a general poorer quality of life. Children are particularly vulnerable as are pregnant women and those with compromised immune systems. The presence of metal implants in the body (such as metal pins in bones) may concentrate the absorption of radiation at the location of implantation, inducing thermal effects from lower power densities than would ordinarily cause such harm (Massey 1979). Some implants, such as pace makers and deep brain stimulators for Parkinson’s disease, may malfunction and this can be fatal. In Switzerland about 5% of the population has EHS. If the same fraction of the population has EHS in the US that would come to a staggering 15 million people!”

4. L. Lloyd Morgan-Senior Research Fellow, Environmental Health Trust

“In the absence of information, and in the presence of a multitude of reports of ill health, incorrect meter readings, electromagnetic interference (EMI) to other electrical equipment (and possibly EMI from other equipment to the smart meter itself), there is a serious dereliction of duty by the government of California to protect its citizens’ health and well being.

Microwave Modulation: Different Effects from Different Modulation Techniques

As a general statement, scientific studies that have examined un-modulated RF exposures [8] have rarely reported adverse health effects. But when any form of modulation is introduced, even turning the carrier frequency on and off once every 20 minutes, biologic effects are commonly found. Here is an example of how important specific modulation techniques can be. When human fibroblast cells were exposed to GSM9 modulated cellphone radiation, the REFLEX project10 found that genotoxic (DNA damage) effects began at a SAR=0.3 W/kg11 [28]. However, in another REFLEX study, which exposed human fibroblast cells to UMTS12 modulated cellphone radiation,

effects were found beginning at a SAR=0.05 W/kg [29]. In other words, a UMTS modulated signal is 6 times more efficient in causing DNA damage to human cells than is a GSM modulated signal.”

Morgan notes studies within the past 15 years yielding statistically significant results indicating positive correlations with the following health effects:

“Brain cancer, acoustic neuroma, meningioma, salivary gland tumors, eye cancer, human testicular cancer and sperm damage, leukemia, in-vivo studies: damaged sperm, in –vivo studies: blood-brain-barrier leakage., Modulation differences induced 6-fold difference in threshold of genetic damage to cells, In-vitro Studies: Genetic damage to cells including human sperm cells.”

5. Daniel Hirsch-nuclear policy expert

“When two of the most central errors are corrected – the failure to take into account duty cycles of cell phones and microwave ovens and the failure to utilize the same units (they should compare everything in terms of average whole body exposure) **the cumulative whole body exposure from a Smart Meter at 3 feet appears to be approximately two orders of magnitude higher than that of a cell phone, rather than two orders of magnitude lower.**” (his emphasis).

On February 3, 2011 the prestigious Karolinska Institutet in Sweden issued a press release entitled: **Scientists Urge Halt of Wireless Rollout and Call for New Safety Standards: Warning Issued on Risks to Children and Pregnant Women [13]**

“Scientists who study radiofrequency radiation from wireless technologies have issued a scientific statement warning that exposures may be harming the development of children at levels now commonly found in the environment. Pregnant women are cautioned to avoid using wireless devices themselves and distance themselves from other users.

The Seletun Scientific Statement has now been published in Reviews on Environmental Health (2010; 25: 307-317). The article recommends that lower limits be established for electromagnetic fields and wireless exposures, based on scientific studies reporting health impacts at much lower exposure levels. Many researchers now believe the existing safety limits are inadequate to protect public health because they do not consider prolonged exposure to lower emission levels that are now widespread.

Current US and ICNIRP standards for radiofrequency and microwave radiation from wireless technologies are entirely inadequate. They never were intended to address the kind of exposures from wireless devices that now affect over 4 billion people. We are already seeing increases in health problems such as cancer and neurobehavioural impairments, even though these wireless technologies are fairly new in the last decades or so for the general public. This finding suggests that the exposures are already too high to protect people from health harm. Safety standards also ignore the developing fetus, and young children who are more affected. Pregnant women and children of all ages should avoid using cell and cordless phones given the health effects we are seeing already.

Many countries are promoting wireless communications on a community-wide scale for energy management and conservation. The SmartGrid concept could require every home to have a wireless electric and gas meter in place of their existing meters. If implemented, it will greatly increase the intensity of new wireless emissions in homes, schools and every other building that uses electricity and gas.

The Scientific Panel urges a halt to the rollout of new wireless technologies, especially those that cause exposures for pregnant women and for children. New, biologically-based exposure limits are crucial to guide new technology development toward solutions that are not harmful to health. The global rollout of wireless technologies has outpaced both health studies and calls for more restrictive public safety limits.”[14]

In the full **Selentun Scientific Statement**, two recommendations include:

1. *“The Panel recommends against the use of cordless phones (DECT phones) and other wireless devices, toys and baby monitors, wireless internet, wireless security systems, and wireless power transmitters in SmartGrid-type connections that may produce unnecessary and potentially harmful EMF exposures.*
2. *The Panel strongly discourages the technology that allows one mobile (cell) phone to act as a repeater for other phones within the general area. This can increase exposures to EMF that are unknown to the person whose phone is —piggy-backed upon without their knowledge or permission.”* (Substitute smart meters for mobile phones in this statement and the same thing applies). [15]

Less than 2 weeks after the PUC’s First Order in this matter, The International Agency for Cancer Research/World Health Organization (IARC/WHO) on May 31, 2011 issued a press release announcing it had classified radiofrequency electromagnetic fields as **possibly carcinogenic to humans (Group 2B)**, (emphasis added) based on an increased risk for glioma, a malignant type of brain cancer, associated with wireless phone use. [16] While the release and initial report [17], published in The Lancet Oncology (online June 22, 2011) mentioned cell phones, findings were not limited to phones and, in fact, covered occupational exposures to radar and microwaves; environmental exposures associated with transmission of signals for radio, television and wireless telecommunication; and personal exposures associated with the use of wireless telephones. The new WHO report was not available to the Maine CDC at the time the CDC made its findings known to the Commission.

Other items on the 2B list include: DDT, benzofuran, chlordane, chloroform, 4,4'-Diaminodiphenyl ether, diesel fuel, 2,6-Dinitrotoluene, gasoline, lead, Polybrominated biphenyls, styrene, Toluene diisocyanates, and 4-Vinylcyclohexene. [18]

It’s important to remember how conservative WHO is with their IARC listings and of course that these listings only deal with cancer, not other adverse health effects. Consider the following toxic substances of the many classified as Category 3 (less carcinogenic than 2B): Aldicarb (active ingredient in the pesticide Temik), Aldrin, Bisphenol A diglycidyl ether (BPA), coal dust, Dieldrin, Malathion, mercury, sulfur dioxide and toluene. [19]

It’s highly unlikely the Board of Pesticide Control or the DEP would endorse unprotected and unrestricted exposures to virtually any of these substances and yet the PUC has decided consumers must actually pay to avoid exposures to an invisible substance in the same or worse categories as those above. When safety, justice and reasonableness are all primary aspects of the PUC mission and yet the Commissioners order consumers pay to avoid the risks described above, the Orders strain any reasonable definition of credulity and beg the question, does the PUC represent the utilities industry or Maine Citizens?

In California, as of June 23, 2011, the County of Santa Cruz, as well as the Cities of Capitola and Watsonville, have adopted urgency ordinances prohibiting the installation of wireless “smart” meters within their jurisdictions. Forty-three local governments throughout the state have formally demanded a halt to the program because of concerns about health, privacy, accuracy, and fire safety. [20]

Connecticut’s Attorney General George Jepson rallied against the costs of his state’s smart grid after a pilot project showed no energy savings at all and a cost to ratepayers of at least \$500 million. If the PUC went ahead he cautioned the deployment be “surgical” and only provide installations to those customers requesting (Opt In?) and able to pay for them. [21] Similar results have been reported all over the country [22] including Bath, ME.

CMP has joined an industry denying mounting evidence RF radiation damages DNA strands. As reported by CBC News, insurers are starting to refuse cell phone companies liability coverage for health problems from non-ionizing radiation. [23] And in another CBC interview on MoxNews it’s noted cell phone manufacturers are using tactics from the tobacco industry to hide the truth while Dr. Devra Davis (former Director of the world’s first Center for Environmental Oncology at the University of Pittsburgh Cancer Institute and Professor of Epidemiology at the University of Pittsburgh’s Graduate School of Public Health) calls cell phone RF radiation issues the “most important public health threat of our generation.” [24]

As described in the Sage Report: “Safety standards for peak exposure limits to radiofrequency have not been developed to take into account the particular sensitivity of the eyes, testes and other ball shaped organs. There are no peak power limits defined for the eyes and testes, and it is not unreasonable to imagine situations where either of these organs comes into close contact with smart meters and/or collector meters, particularly where they are installed in multiples (on walls of multi-family dwellings that are accessible as common areas).

In summary, no positive assertion of safety can be made by the FCC, nor relied upon by the CPUC, with respect to pulsed RF when exposures are chronic and occur in the general population. Indiscriminate exposure to environmentally ubiquitous pulsed RF from the rollout of millions of new RF sources (smart meters) will mean far greater general population exposures, and potential health consequences. Uncertainties about the existing RF environment (how much RF exposure already exists), what kind of interior reflective environments exist (reflection factor), how interior space is utilized near walls), and other characteristics of residents (age, medical condition, medical implants, relative health, reliance on critical care equipment that may be subject to electronic interference, etc) and unrestrained access to areas of property where meter is located all argue for caution.” [25]

In May, 2011, the Council of Europe’s Parliamentary Assembly released its report: **The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment**. Amongst the conclusions:

“63. The potentially harmful effects of electromagnetic fields on the environment and human health have not yet been fully elucidated and a number of scientific uncertainties continue to exist in that regard. Nevertheless, anxieties and fears remain in wide sectors of the population over the health hazards posed by the waves, and also of the demands voiced by high-level scientists, by groupings of doctors and by the associations of concerned citizens which abound in many Council of Europe member states.

64. The precautionary principle and the right to a healthy environment, particularly on behalf of children and future generations, must be key factors in all economic, technological and social

development of society. In that regard, the Parliamentary Assembly has decided on several previous occasions (see Recommendation 1863 (2009) on environment and health: better prevention of environment-related health hazards and Recommendation 1959 (2011) on preventive health care policies in the Council of Europe member states) that coherent, effective preventive measures must be taken to protect the environment and human health.

65. After analyzing the scientific studies available to date, and also following the hearings for expert opinions organized in the context of the Committee on the Environment, Agriculture and Local and Regional Affairs, there is sufficient evidence of potentially harmful effects of electromagnetic fields on fauna, flora and human health to react and to guard against potentially serious environmental and health hazards.” [26]

In the PUC’s Order (Part II) on this subject, the Commission, in avoiding a decision or the use of a virtually unlimited number of experts it could employ for help in fact-finding, states in III. A.: *“In initiating the Opt-Out Investigation, the Commission specifically stated that it is making no determination on the merits of health, safety, privacy or security concerns with respect to wireless smart meters.”* Yet in its decision, the Commission not only abdicates its responsibility but consistently dismisses concerns Complainants have in all these areas. In ordering a pay-to-opt out scheme, the Commission has, in fact, decided concerns with health, safety, privacy and/or security, should be given less weight than a utility’s desire to use Mainers as a test bed for new and questionable technology. The Commission does this despite proffering no evidence or studies concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure.

Penalizing the class of citizens having concerns regarding this technology is discriminatory. An unbiased and transparent approach, in contrast, would provide ratepayers all of the information on both sides of the issue (not as in the one-sided communication plan) and let them choose. In (almost) true fairness if the program went ahead despite evidence to the contrary regarding health hazards, the smart meter plan would be an opt-in. In a program of true fairness, citizens would not be exposed to “second-hand” RF as is often the case in densely populated areas where in particular, those with electro sensitivities can actually be forced from their homes by neighborhood smart meter RF. The Commission’s decision to order opt out fees is particularly punitive when not supported substantially by evidence smart meters are safe

Privacy and Electronic Trespass

The Commission erroneously attempts to sidestep privacy and electronic trespass issues by offering a pay-to-opt out option yet, by default, builds a bias into the program in its discriminatory action against those with legitimate privacy and trespass concerns. Concerns raised by Complainants Wilkins and Foley-Ferguson have been responded to, by CMP, with the comment *“should be dismissed as without merit.”* [Order Part II]. As with its response to health concerns, we believe the Commission erred in not giving due deference to privacy/trespass issues supported by a sizable weight of evidence.

As the National Institute of Standards and Technology acknowledges, *“the major benefit provided by Smart Grid, i.e. the ability to get richer data to and from customer meters and other electronic devices, is also its Achilles’ heel from a privacy viewpoint.”* [27]

The 4th amendment to the U.S. Constitution is quite clear: *“The right of the people to be secure in*

their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." [28] While it is CMP who is electronically entering the home (also in excess of their terms and conditions of service- thus trespassing), they are acting as an agent of the government (the PUC or State) who has decided to endorse, promote, solicit and award bids to implement the smart meter program as part of a smart grid. The act of smart meters gathering or attempting to (whether obtained or not) information inside the home without a warrant is a clear transgression of the 4th amendment by the PUC/State and trespass by CMP. The only way around this (aside from probable cause and a warrant) can be with complete disclosure and transparency on what information meters will gather, what precautions will be taken with it, how those data will be used and with full permission of the homeowner. Such full disclosure must be inclusive of possible adverse health effects because, if one is harmed in the course of information gathering, that too would constitute "unreasonable", as in "unreasonable search and seizure." If one is forced to pay, to avoid this information gathering, it is extortion plain and simple. Justice Scalia wrote in *Kyllo v. United States*: "*The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy.*"[28] Perhaps, cynically, it's hard to imagine CMP would have any desire to engage in the smart meter project unless there was plenty of money to be made: from DOE grants, layoffs of meter readers and, most importantly, data mining of ratepayer information.

The Commissioners might be tempted to downplay the reach of smart meters (in terms of health effects and) in their role of information gathering because we are, in fact, surrounded by electronic devices that already do so. The key difference is CHOICE. At this point in time at least, casting possible "second-hand radiation effects" aside, we have choices to carry and use radiation emitting devices or not (cell phones, baby monitors, etc.) and a CHOICE of whether we want to transmit personal data over our computer or not. Even in the case of computer cookies, while we could in general opt out by not visiting a web site, or by erasing cookies from our hard drives; some companies have tried to change this and found legal pushback, Quite recently (June, 2011) federal judge George Wu in California approved a settlement in a major "Flash cookies" lawsuit (actually several class action suits consolidated), which alleged that use of the data technology in online advertising violates the privacy rights of millions of internet users every day. [30]

Quantcast and Clearspring, the two major internet marketers named in the suit, have agreed to pay \$2.5 million to settle the claims, \$2 million of which is being distributed to universities and research groups analyzing online privacy issues. Once it came to light that Flash cookies override a computer user's decision to delete traditional HTTP cookies and related personal information, privacy lawsuits were filed in droves. [31]

Paul Lanois in his article Caught in the Clouds: The Web 2.0, Cloud Computing, and Privacy? Published in the November 2011 issue of the Northwestern Journal of Technology and Intellectual Property discusses these issues at length noting at ¶9 "In addition, the monitoring of users' behavior has become increasingly sophisticated. Privacy-conscious consumers previously could usually delete or prevent the installation of cookie files through their Internet browser settings.⁴⁷ However, the tracking technology used "is getting smarter and more intrusive" with the use of "new tools that scan in real time what people are doing on a web page, then instantly assess location, income, shopping interests, and even medical conditions."⁴⁸ The study concluded, "One of the fastest growing businesses on the Internet is the business of spying on American consumers and tracking information."⁴⁹ And at ¶10 "Because of such practices, there has been a push for the government to step in to regulate the Internet and promote greater consumer privacy."⁵⁰ [32] One could say the same thing regarding a smart meter system as is said here about the internet only one has a no-penalty opt out of cloud computing

and internet browsing with cookie exposure. Complainants incorporate not only Lanois, but his references as well.

The Electronic Privacy Information Center has this to say: *“Privacy implications for smart grid technology deployment centers on the collection, retention, sharing, or reuse of electricity consumption information on individuals, homes, or offices. Fundamentally, smart grid systems will be multi-directional communications and energy transfer networks that enable electricity service providers, consumers, or third party energy management assistance programs to access consumption data. Further, if plans for national or transnational electric utility smart grid systems proceed as currently proposed these far reaching networks will enable data collection and sharing across platforms and great distances.*

A list of potential privacy consequences of Smart Grid systems include:

- 1. Identity Theft*
- 2. Determine Personal Behavior Patterns*
- 3. Determine Specific Appliances Used*
- 4. Perform Real-Time Surveillance*
- 5. Reveal Activities Through Residual Data*
- 6. Targeted Home Invasions (latch key children, elderly, etc.)*
- 7. Provide Accidental Invasions*
- 8. Activity Censorship*
- 9. Decisions and Actions Based Upon Inaccurate Data*
- 10. Profiling*
- 11. Unwanted Publicity and Embarrassment*
- 12. Tracking Behavior Of Renters/Leasers*
- 13. Behavior Tracking (possible combination with Personal Behavior Patterns)*
- 14. Public Aggregated Searches Revealing Individual Behavior*

Plans are underway to support smart grid system applications that will monitor any device transmitting a signal, which may include non-energy-consuming end use items that are only fitted with small radio frequency identification devices (RFID) tags may be possible. RFID tags are included in most retail purchases for clothing, household items, packaging for food, and retail items.” [33]

And they conclude in part:

“Public electric utility companies are installing new meter technology and offering smart meters to monitor customer consumption of electricity. Some utilities are offering lower utility rates in exchange for customers agreeing to the installation of smart meters. What might not be well known is the capacity of these new data collection systems to monitor electric utility use within a home or office space. This can include consumption of new appliances fitted with technology that would allow the monitoring of their use inside homes and businesses. The move from an Internet of people to the “Internet of things” means that many appliances would come with unique Internet protocol addresses and wireless communication applications. How these devices might be used to collect information on their use, and who would have access to that information, and for what purpose is still unknown. The key to privacy protection is to have the user maintain control over the collection, use, reuse, and sharing of personal information including their use of electricity.” [34]

Even appliance manufacturers share this last point probably understanding they are less likely to sell as many new appliances if consumers see them as being too invasive. The Association of Home Appliance Manufacturers in their December 2009 white paper on the smart grid [35] state at 14: *“The*

boundary of the utility's reach should end at the smart meter. Communication or interaction inside the home should be under the control of the consumer. Ideally, the smart meter should appear to the residence as a one-way, read-only device to provide pricing, usage, and requests for load reduction."

And at 15: "The architectural design of having the utility exchange multiple messages and acknowledgements with a single device is the current practice with some smart meter pilot projects. The problem is that the practice does not scale into the future where many appliances and devices will be participating as a networked home following the preferences and procedures determined and controlled by the consumer.

*In some Smart Grid use cases and scenarios, there is the notion of an emergency command from the utility to stop an appliance mid-cycle that cannot be overridden by the consumer. AHAM believes the implementation of this functionality is not acceptable. Utilities have no expertise in controlling appliances in a home. While appliances are manufactured to ensure basic safety and functionality while in use, consumers should always be able to override a remote signal to the appliance. Appliances are an essential part of the development of a Smart Grid and **eliminating any concerns of invasions of privacy should be a primary objective to increase household participation and involvement.***

An interruption and subsequent resumption of operation by a utility directed by someone in a remote location with no expertise and for which the product has not been designed and tested might subject the consumer to unexpected risks and consequences, especially in products that have heating elements and motors. Standards development organizations must incorporate these safety expectations into all use case and requirements discussions related to consumer-based products. The consumer and/or appliance must always retain control and management of itself. The simplest and most straightforward way for the utility to verify that its message was received and the load was reduced is to read the meter."

Finally at 16 the manufacturers express the criticality of doing what it takes to remove any possibility invasion of privacy: "Additionally, many consumers have growing concerns over the amount of data collected about their lives and for what reasons that information may be used. Intensive monitoring and registration of appliances and devices within the home can lead to data collection that allows for behavioral patterning and other data mining to be completed on individuals and groups of consumers. Regardless of the intent, this perception can cause concern from members of the population about the perceived invasion to their privacy and create an unnecessary hurdle to people becoming excited about participating in the Smart Grid. These concerns should be put to rest. It is important that the management of energy consumption and device profiles remain within the realm of the home and be invisible to the utilities in order to prevent such data mining, unless the consumer specifically allows it. Furthermore, it is critical that significant privacy policies and violation penalties be in place for Smart Grid programs to ensure protection of the user and their privacy and protect against use and collecting of data without consumer approval.

AHAM is also concerned that the smart meter pilot projects of today, which in many cases allow utilities to receive information about how a consumer uses their appliances, will result in the default course for the future. This would severely limit the Smart Grid's effectiveness and wide-spread participation, because today's pilots may not comply with Smart Grid standards that are currently under development and ensure consumer privacy. A more flexible, scalable, and consumer-centric approach is required to achieve the Smart Grid Vision."

Comments from the Electronic Privacy Information Center and a host of coordinating organizations regarding the Draft NIST Interagency Report on Smart Grid Cyber Security note:

“Because Smart Grid technology can gather detailed information about individual and family activities at home, privacy is a crucial concern: law enforcement today uses utility records, and the expected increase in amount and detail of information available through utilities with the Smart Grid will fuel demand for data about home activities that should only be available to government with a warrant. Privacy of the home can only be adequately protected in the Smart Grid if it is analyzed together with Smart Grid policy and architecture. Clear standards are needed as to what information (and how much and how detailed) is transmitted or available to utilities. System architecture (e.g. centralization vs. decentralization, network nodal structure) may permit significant minimization of data and detail; if homes and neighborhoods have significant computing capacity in local devices and networks, much monitoring, calculation and analysis of energy usage can be done locally, obviating utility data collection in the first place.” (In other words, a watt meter in the home could provide the same energy usage information) Parenthesis added [36]

Elias Leake Quinn, on page 3 of his 2009 presentation *Smart Metering & Privacy: Existing Law and Competing Policies*, presents a very detailed graph showing how smart meters can profile consumers through the monitoring of appliance usage. [37] This graph is cited in NISTIR 7628, Guidelines for Smart Grid Cyber Security: Vol. 2, Privacy and the Smart Grid as Figure 5-1: Power Usage to Personal Activity Mapping.[38] Just below the graph at 13 the NIST report states: “*However, such detailed information about appliance use can also reveal whether a building is occupied or vacant, show residency patterns over time, and reflect intimate details of people’s lives and their habits and preferences inside*” Complainants incorporate by reference all three NISTIR 7628 volumes.[39]

According to the National Institute of Standards and Technology (NIST):

“The Smart Grid will greatly expand the amount of data that can be monitored, collected, aggregated, and analyzed. This expanded information, particularly from energy consumers and other individuals, raises added privacy concerns. For example, specific appliances and generators can be identified from the signatures they exhibit in electric information at the meter when collections occur with great frequency as opposed to through traditional monthly meter readings. This more detailed information expands the possibility of intruding on consumers’ and other individuals’ privacy expectations.

The research behind the material presented in this chapter focused on privacy within personal dwellings and electric vehicles and did not address business premises and the privacy of individuals within such premises. The researchers’ conclusions based upon work in these primary areas are as follows:

- 1. Evolving Smart Grid technologies and associated new types of information related to individuals, groups of individuals, and their behavior within their premises and electric vehicles introduce privacy risks and challenges that have not been tested and may or may not be mitigated by existing laws and regulations.*
- 2. New Smart Grid technologies, and particularly smart meters, smart appliances, and similar types of endpoints, create new privacy risks and concerns that may not be addressed adequately by the existing business policies and practices of utilities and third-party Smart Grid providers.*
- 3. Utilities and third-party Smart Grid providers need to follow standard privacy and information security practices to effectively and consistently safeguard the privacy of personal information.*

4. Most consumers probably do not understand their privacy exposures or their options for mitigating those exposures within the Smart Grid. [40]

Based on initial research and the details of the associated findings, a summary listing of all recommendations includes the following points for entities that participate within the Smart Grid:

1. *Conduct pre-installation processes and activities for using Smart Grid technologies with utmost transparency.*
2. *Conduct an initial privacy impact assessment before making the decision to deploy and/or participate in the Smart Grid. Additional privacy impact assessments should be conducted following significant organizational, systems, applications, or legal changes—and particularly, following privacy breaches and information security incidents involving personal information, as an alternative, or in addition, to an independent audit.*
3. *Develop and document privacy policies and practices that are drawn from the full set of Organisation for Economic Cooperation and Development (OECD) Privacy Principles and other authorities (see 5.4.1 “Consumer-to-Utility PIA Basis and Methodology”). This should include appointing personnel responsible for ensuring privacy policies and protections are implemented.*
4. *Provide regular privacy training and ongoing awareness communications and activities to all workers who have access to personal information within the Smart Grid.*
5. *Develop privacy use cases that track data flows containing personal information to address and mitigate common privacy risks that exist for business processes within the Smart Grid.*
6. *Educate consumers and other individuals about the privacy risks within the Smart Grid and what they can do to mitigate them.*
7. *Share information with other Smart Grid market participants concerning solutions to common privacy-related risks. [41]*

Additionally, manufacturers and vendors of smart meters, smart appliances, and other types of smart devices, should engineer these devices to collect only the data necessary for the purposes of the smart device operations. The defaults for the collected data should be established to use and share the data only as necessary to allow the device to function as advertised and for the purpose(s) agreed to by Smart Grid consumers.

There is also the possibility of utilities possessing new types of data as a result of the Smart Grid for which they have not to date been custodians. These new types of data may be protected by regulations from other industries that utilities did not previously have to follow. As is revealed by the privacy impact assessment that is the subject of section 5.4 of this chapter, there is a lack of privacy laws or policies directly applicable to the Smart Grid. Privacy subgroup research indicates that, in general, state utility commissions currently lack formal privacy policies or standards related to the Smart Grid. Comprehensive and consistent definitions of privacy-affecting information with respect to the Smart Grid typically do not exist at state or federal regulatory levels, or within the utility industry.

However, the Supreme Court in Kyllo clearly reaffirmed the heightened Fourth Amendment privacy interest in the home and noted this interest is not outweighed by technology that allows government agents to “see” into the suspect’s home without actually entering the premises. The Court stated, “We think that obtaining by sense-enhancing technology any information regarding the interior of the home that could not

otherwise have been obtained without physical intrusion into a constitutionally protected area, constitutes a search and is presumptively unreasonable without a warrant.” (emphasis added)

Second, unlike the traditional energy grid, the Smart Grid may be viewed as carrying private and/or confidential electronic communications between utilities and end-users, possibly between utilities and third parties, and between end-users and third parties. Current law both protects private electronic communications and permits government access to real-time and stored communications, as well as communications transactional records, using a variety of legal processes. Moreover, under the Communications Assistance for Law Enforcement Act (CALEA), telecommunications carriers and equipment manufacturers are required to design their systems to enable lawful access to communications. The granular Smart Grid data may also have parallels to call detail records collected by telecommunications providers. It is unclear if laws that regulate government access to communications will also apply to the Smart Grid.

In short, the innovative technologies of the Smart Grid pose new legal issues for privacy of the home, as well as any type of property location that has traditionally received strong Fourth Amendment protection. As Justice Scalia wrote in *Kyllo*: “The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy.” [42]

NIST concludes in part:

“5.8 SMART GRID PRIVACY SUMMARY AND RECOMMENDATIONS

5.8.1 Summary

Based upon the work and research done over the past year, the privacy subgroup reached the following conclusions:

1. The evolving Smart Grid technologies and associated new types of information related to individuals, groups of individuals, and premises may create privacy risks and challenges that are not fully addressed or mitigated by existing laws and regulations with regard to energy consumption, energy generation, billing, third-party Smart Grid applications data, and other related Smart Grid data.
2. New Smart Grid technologies, particularly smart meters, smart appliances, and similar types of endpoints, may create new privacy risks and concerns that may not be addressed adequately by the existing business policies and practices of utilities and third-party Smart Grid providers.
3. Utilities and third-party Smart Grid providers need to follow recognized privacy practices in a consistent and comprehensive fashion to effectively safeguard Smart Grid personal information and consumer privacy. Existing policies should be evaluated and revised, as required.

5.8.2 Recommendations

Choice and Consent. An organization should clearly, fully, and accurately describe the choices available to individuals, and to the extent practicable, obtain explicit approval for the collection and use of their personal information. Consumers should have the option to forgo data collection and services that are not related to the core services provided by the organization. (While to some customers receiving a communications brochure- choices are explained, implications are not. The core of CMP’s service is transmission of energy and billing for such-that’s it.)

Collection and Scope. Only personal information that is required to fulfill the stated purpose specified under the Notice and Purpose principle should be collected. Treatment of the information should conform to these privacy principles.” [43]

CMP's rights are limited essentially to providing, accessing and servicing their meters. Their terms and conditions of service state the following:

“215. ACCESS TO PREMISES

The Company shall have the right of access, by the Company's standard vehicles and equipment, to a customer's premises and to all property furnished by the Company installed therein at all reasonable times during which service is furnished the customer, and on or after its termination, for the purpose reading meters, or inspection and repair of devices used in connection with its service, or removing its property, or for any other proper purpose.” [44]

Foley-Ferguson et al. in their May 16, 2011 **Letter to the Commissioners Urging No Cost Opt Outs** [which is not addressed in either Part I or Part II of the Order] speaks to this issue:

“1. Rights of CMP Easement

According to the law, CMP has the right to enter the property of any individual to read and to maintain its meter to provide electricity to the (solely) person(s) who has (have) agreed to service. This is called an easement. Electric meters remain the property of CMP. There is nothing, however, in CMP's easement that legitimizes the installation of a sending and receiving antenna that transmits other people's data without the express consent of the owner to transmit data other than their own. CMP has no rights to use a person's residence for business purposes other than providing electric service to the owner as agreed. Other easement violations include allowing RF into homes, and collecting data without express permission of owner”.

These and other claims to implied or expanded rights are also addressed in the Wilkins Complaint:

“CMP will tell you that they have a contractual right of way to your electric meter box and that is true but that right of way ends at the meter box. Their right of way does not extend into the interior of our homes. We did not agree to let them use the interior of our homes and bodies when we signed up with them for electric service. We just agreed to let them bring the electricity to the electric box; and from that point our house wiring uses that electricity and we pay for it.

CMP's new meters send radiofrequency radiation into the interior of our homes to collect not only our usage data but also to transmit all of our neighbor's data. CMP has estimated that your smart meter could SEND up to 15,400 Radiofrequency transmissions per day. This means not only will your smart meter be sending RF radiation 15,400 times per day but could also be receiving RF radiation from neighbors meters who are sending their data to your meter for another possible 15,400 times per day. CMP says these estimated transmissions only last a fraction of a second for each transmission but they occur all night and all day. CMP is using the interior of our homes to collect not only our data... but other peoples, without our permission... without paying us for that privilege.... and without due process of law. So not only is this against the Maine Constitution... but also the 5th and 14th Amendment... to the US Constitution which prohibits anyone from taking or using our property without compensation and due process of the law.”

Now we are sliding into trespass issues allowing for commerce wherein CMP has set up a place of business on the side of your house to move not just your information but those of others. This goes far beyond their handbook description: reading the meter. Again from the Foley-Ferguson May 16 letter:

"2. RF Mesh Holes Equal Biggest Cost-Opt outs should not pay

*The possible holes in the system created by CMP's lack of ability to use an individual's home for a repeater and sender of **other peoples data** has been shown by CMP and PUC staff to be the highest additional AMI cost associated with opt outs. (see spreadsheet) This is because of the method by which an RF mesh system operates. According to law, the use of each individual home, however, is limited to providing that home with electricity; not to provide a facility for CMP to store and move other people's data. Thus, any cost born by customers who choose to opt out for moving other people's data is unjust, discriminatory, and unreasonable.*

Individuals who opt out of the smart meter program should not pay CMP a fee because they have created holes in CMP's "business plan", or mesh. As an example, what happens when a impenetrable skyscraper is built in Portland that obstructs the "mesh" transmissions and requires CMP to install another repeater? Over the years, it is likely to happen. Does the owner of the skyscraper pay? No. It is simply a characteristic of the "mesh", that CMP will need to adjust it's locations of repeaters. Opt out customers should not pay for repeaters.

Opt outs do not create a situation where a resident's own energy usage cannot be measured. The agreement between a homeowner and CMP that is required in order to receive service says nothing about transmitting other people's energy usage".

In a 5/20/2011 email response to a question from the lead complainant in this complaint, Richard Davies, Maine Public Advocate, replied:

"The right to place a meter on your house comes from the customer applying for electric service. By applying for service you grant the utility the right to place a meter in order to measure your electric consumption. The PUC rules state that the utility determines the nature and technology of the meter it places on a customer's property. Implied in this is the right to test, service, repair or replace the meter, and the right to have access to the meter for these purposes.

There is nothing I can find in the rules regarding the issue of the operation of a meter "intruding into the building" such as in the form of RF radiation, but I expect to see the Commission address this issue when they issue Part 2 of their decisions regarding the four "smart meter" 10-person complaints they decided in mid-May. Part 1 has been issued, but deals just with the opt-outs they approved. We don't know when Part 2 will be issued. It will be filed under each of the four dockets (2010-345, 2010-389, 2010-398, and 2010-400).

This issue might be "ripe" for litigation since the technology being used by CMP involves the transmittal of a meter's data wirelessly not directly to the utility, but via a "mesh" system that uses the antennas on each meter to relay data from other meters on to a collector which then transmits it along to the utility. As Suzanne Foley-Ferguson (Docket No. 2010-398) argued, this allows CMP to use a customer's home as a place of the utility's business to serve other customers and not just the customer at that location. This, combined with the health issue, may create a legal situation that falls outside the bounds of settled law." [45]

Conclusion

We reiterate our request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to provide relief as follows: **1)** Stay the installation of further smart meters, or **2)** Should further installations not be stayed, order future installations to be Opt In, and **3)** Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters. **4)** Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices, privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent. **5)** That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. This hot line number shall be prominently displayed on CMP bills and in the communication plan. We also request the Commission establish a database where such complaints will be recorded.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. As Suzanne Foley-Ferguson writes in Friends of Merrymeeting Bay's Spring 2011 Newsletter- *Merrymeeting News*: "*Indeed, considering our bodies are essentially masses of electrically charged particles, it would be a surprise if we were **not** affected by RF.*" [46] The PUC does not adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

The Commission's second Order addresses cost issues to opt-out ratepayers by noting AMI smart meters are now CMP's standard meter and using past practices as an example of how to act here, if a ratepayer wants a non-standard option [underground lines for example], they should pay the incremental costs of the alternative. The fatal flaw in this logic, as stated earlier, is the options carry very different risks. Assuming you are one of the vast majority who have electricity, there really is no just and reasonable choice if you are discriminated against and penalized through additional fees for protecting yourself and your family. Knowing smart meters carry a very real or at least the strong possibility of very real risks, and still ordering CMP charge ratepayers a premium to opt out or avoid these risks, the Commissioners create, in this case, a situation not only discriminatory but unsafe, unjust and unreasonable, anathema to the PUC mission: *regulating electric, gas, telephone and water utilities to ensure that Maine citizens have access to safe and reliable utility services at rates that are just and reasonable for all ratepayers.*

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Appendix 1 - Signature Pages

(PUC Smart Meter Complaint July 29, 2011)

Complainants

1. Ed Friedman
2. Kathleen McGee
3. Dorothy Kelly
4. Chester Gillis
5. Eleanor Gillis
6. Cynthia Atkinson
7. Nancy Gray
8. Andrew Fiori
9. Melissa Fiori
10. Julian Holmes
11. Audrey Marra
12. Charlotte Isertbyl
13. Deborah Burk
14. Dan Burk
15. Regina Stilphen
16. Donna Giroux
17. Bryan Hardacker
18. Jeanne Johnson
19. Joe Chiarroco

Ten-Person Complaint Pursuant to 35-A M.R.S.A. Section 1302 Regarding "Smart Meters" & "Smart Meter" Opt-Out as Promulgated by the Maine Public Utilities Commission (MPUC).

WE, the undersigned** aggrieved Complainants, are customers of Central Maine Power (CMP). While this complaint is based on proposals and actions by CMP, the complaint is directed not only at CMP for levying what, given the facts, must be an unreasonable, unjust and discriminatory fee against ratepayers choosing to opt out of the smart meter program, but also at the PUC because of its May 19 and June 22, 2011 Orders (Part I and Part II) requiring CMP customers to pay the utility, should they, the ratepayer, elect to opt out of the program.

WE request the Public Utility Commissioners open an investigation for the purpose of examining this issue since *new and important evidence specifically addressing non-ionizing radiation* of the type emitted by smart meters, has been published earlier this year and also after the May 19 Order, and was not considered in either Order (in fact its absence was cited by the Maine CDC as supporting a lack of adverse health effects). Furthermore, privacy/electronic trespass concerns have not been adequately considered in previous Orders and *new information for the Commissioners on privacy/electronic trespass issues* is also presented here. The complaint enters other electronic trespass and health evidence including privacy guidelines, which may not have been raised in earlier complaints or be a part of the record.

WE hereby request the Maine Public Utility Commissioners promptly investigate this complaint and take all necessary action to satisfy it including amending the previous Orders as follows:

- 1) Stay the installation of further smart meters, or
- 2) Should further installations not be stayed, order future installations to be Opt In, and
- 3) Should Opt Out's continue, order past and future Opt Outs be at no cost to the ratepayer including switch-overs from ratepayers already with smart meters.
- 4) Should installations of smart meters continue, we request the Commission ensure the required Communication Plan present, in an unbiased fashion, concerns expressed by this and prior complaints that identify problems (including health, interference with other devices, privacy concerns and other issues included in, but not limited to, this complaint) ratepayers may have with so-called smart meters. The current plan is incomplete and is not transparent.
- 5) That the Commission establish, within the Public Advocate's office, a toll free hot line where ratepayers may report smart meter complaints of all types. We also request the Commission establish a database where such complaints will be recorded. This hot line number shall be prominently displayed on CMP bills and in the communication plan.

The Commission proffers no substantial evidence or studies in the record concluding exposure to low levels of non-ionizing radiation is safe. In contrast, Complainants supply an extensive body of evidence documenting adverse effects of RF exposure and studies calling into question the safety of such exposure. Neither does the PUC adequately address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems in these areas. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

** Signature pages attached as Appendix 1

address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Dorothy Kelly
Utility Acc. # 514-024-8140-012 Telephone Number 207-443-4787
Printed Name Dorothy Kelly
Address 98 Pleasant Cove Rd. Phippsburg, Me 04562
Signature [Signature] Lead Complainant.
Utility Acc. # 211-022-0491-015 Telephone Number 666-3372
Printed Name Ed Friedman
Address 42 Stevens Rd., Bowdoinham, ME 04008
Signature [Signature]
Utility Acc. # _____ Telephone Number 207-666-3598
Printed Name Kathleen McGee
Address 30 STEVENS Rd, Bowdoinham, Me 04008
Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Introduction

As the Commissioners and PUC staff should well know, smart meters, so-called, have no shortage of critics due to many proven and possible problems associated with them including:

1. Adverse health effects
2. Constitutional privacy violations
3. Interference with other wireless devices
4. Creation of fire hazards due to interference with ground fault interrupters
5. Effects on wildlife
6. Inaccurate readings-over-billing
7. Commerce issues-Electronic Trespass

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Signature

Utility Acc. #

Telephone Number

Printed Name

Address

Signature

Utility Acc. #

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Address

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Signature Cynthia Atkinson
Utility Acc. # 441-157-7732-004 Telephone Number 883 4276
Printed Name Cynthia Atkinson
Address 10 Teal Pt Dr. Scarborough, Me 04074

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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Printed Name _____

Address _____

Signature _____

Utility Acc. # _____ Telephone Number _____

Printed Name _____

Address _____

Signature Nancy Dye Gray 514 040-3225-001 231 025 7810-001 865-6319

Utility Acc. # 514-040-3225-001 Telephone Number 865-6319 231-025-7810 865-2816

Printed Name Nancy Dye Gray

Address 204 Main Street Freeport, Maine 04032 Sherman Miller & Borney Town Rd

Signature 204 Main Street Freeport, Maine 04032

Utility Acc. # _____ Telephone Number _____

Printed Name Sherman Miller & Borney Town Rd

Address Appleton, Me

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The PUC has recently debated many of these issues in Dockets 2010-120; 2010-345; 2010-346; 2010-389; 2010-398; 2010-400 and 2011-085. [1] This complaint incorporates by reference all evidence, oral and written, submitted in the aforementioned dockets while introducing recent compelling evidence from the World Health Organization's International Agency for Research on Cancer (WHO/IARC) and further discussing privacy/electronic trespass issues.

While one might think the Commission should be commended for offering an Opt Out; in reality the net result may do more harm than good as it attempts to legitimize a seriously flawed product, foist this product on an unsuspecting public, and couch what is nothing more than a text book illustration of extortion as "associated costs of that option". [2]

Signature *Andrew Fiori*

Utility Acc. # Telephone Number

~~5140500397002~~ (207) 666-8419 / CMP# 5140500397002

Printed Name ANDREW FIORI

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Signature *Melissa M. Fiori*

Utility Acc. # Telephone Number

5140500397002 Phone# 207-666-8419

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Address 212 Fisher Rd Bowdoinham, Maine 04008

Signature

Utility Acc. # Telephone Number

Printed Name

Address

Signature

Utility Acc. # Telephone Number

Printed Name

Address

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address 4th amendment and electronic trespass issues whereas Complainants enter into the record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Julian C. Holmes

Utility Acc. # 211-0272371-012 Telephone Number 207 685 9057

Printed Name JULIAN C. HOLMES

Address 66 LORD ROAD, WAYNE, ME 04284

Signature Audrey S. Marra

Utility Acc. # 211-0272371-012 Telephone Number 207-685-7329

Printed Name AUDREY S. MARRA

Address 66 LORD ROAD, WAYNE, ME 04284

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record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature Charlotte T. Serby
Utility Acc. # 535004291013 Telephone Number 207-737-4730
Printed Name CHARLOTTE T. SERBY
Address 519 River Rd., Dresden, ME 04342

Signature Deborah A. Burk
Utility Acc. # 535 004 2921 013 Telephone Number 207 737-4034
Printed Name Deborah A Burk
Address 530 River Rd Dresden, Me 04342

Signature Dan Burk Dan Burk
Utility Acc. # 535 004 2921 013 Telephone Number 207 737-4034
Printed Name Dan Burk
Address 530 River Rd Dresden, ME 04342

Signature Regina Stilphen
Utility Acc. # 211-012-1302-012 Telephone Number 582-4995
Printed Name Regina Stilphen
Address 1241 Wiscasset Rd. Pittsford, ME 04345

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record substantial evidence of problems and potential problems. Penalizing the class of consumers having concerns regarding smart meter technology is discriminatory and probably puts hundreds of thousands of Maine citizens in harm's way.

Signature

Donna Giroux

Utility Acc. #

4430-221480624

Telephone Number

307 809 0232

Printed Name

Donna Giroux

Address

82 Ocean Ave Old Orchard Beach ME 04064

Signature

Utility Acc. #

Telephone Number

Printed Name

Address

Signature

Utility Acc. #

Telephone Number

Printed Name

Address

Signature

Utility Acc. #

Telephone Number

Printed Name

Address

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Signature _____

Utility Acc. # 4430321480024

Telephone Number 207-209-8088

Printed Name _____

Bryan Hardacker

Address _____

82 Ocean Ave, Old Orchard Beach, ME, 04064

Signature _____

Utility Acc. # _____

Telephone Number _____

Printed Name _____

Address _____

Signature _____

Utility Acc. # _____

Telephone Number _____

Printed Name _____

Address _____

Signature _____

Utility Acc. # _____

Telephone Number _____

Printed Name _____

Address _____

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Utility Acc. # 05140202896 011 Telephone Number 207-725-6414
Printed Name Joe Ciarracca *redone below as JB signature*
Address 532 Harpswell Rd. Brunswick, ME. 04011
Signature *[Signature]*
Utility Acc. # 05140202896 011 Telephone Number 207-725-6414
Printed Name Jeanne Johnson
Address 532 Harpswell Rd. Brunswick, ME 04011
Signature *[Signature]*
Utility Acc. # 05140202896 011 Telephone Number 207-725-6414
Printed Name Joe Ciarracca
Address 532 Harpswell Rd.
Signature _____
Utility Acc. # _____ Telephone Number _____
Printed Name _____
Address _____

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16339

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Ed Friedman

Email Address:

edfomb@comcast.net

Representing:

Ed Friedman

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